Clinical Year Medical Students' Perception of Job Demands and Job Control on Their Working Lives as Doctors in Malaysia

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Clinical Year Medical Students' Perception of Job Demands and Job Control on Their Working Lives as Doctors in Malaysia

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ABSTRACT

CLINICAL YEAR MEDICAL STUDENTS' PERCEPTION
OF JOB DEMANDS AND JOB CONTROL ONTHEIR WORKING LIVES
AS DOCTORS IN MALAYSIA

Dr. Nadia Mohamad Hatta

The medical profession is a highly demanding job with limited control; being ill-equipped in terms of psychological preparation as medical students and medical graduates might lead to highly stressful lives as practicing doctors. This research assesses the perception of clinical year medical students of job demands and job control on their working lives as doctors in Malaysia. This study employed a mixed-method approach whereby a questionnaire and a short film were constructed; answered and viewed respectively by a sample of 215 clinical year medical students from both public and private universities in Malaysia. Results showed that out of 215 participants, 67 took up medicine out of their own interest while 148 took it up for other than own interest. There is no significant difference in job demands and job control between these two groups but there is a significant difference in job demands and job control among clinical year medical students overall before and after viewing the short film. The majority thought positively of doctors in general but the majority shifted and they felt negatively about becoming doctors themselves. The implication of this study is to improve the medical curriculum to better prepare medical graduates for their challenging work lives as doctors in Malaysia.

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APPROVAL SHEET

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Yours Truly,

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DECLARATION

I, Dr. Nadia Mohamad Hatta, hereby declare that the dissertation is based on my original work except for the quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

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Date:

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The medical profession has long been regarded as a noble and respectable career. It goes without saying that the profession also comes with great responsibility and with that, a substantial amount of stress. Not only does a doctor have to deal with the pressure of treating patients and their caretakers; in order to do so, they need to assure that they themselves are in optimum health, physically and more importantly, mentally.

Medical students who are about to embark on this challenging career must also be aware of the job demands so that they can better prepare themselves for the stress in order to cope. In the recent five to seven years, the incompetency of fresh medical graduates who have started working in government hospitals have been widely discussed, mainly due to misguided perception of their working lives (Pagalavan, 2011). Most recently as featured in The Star newspaper, Deputy Health director-general Datuk Dr. S. Jeyaindran made a press statement that one out of five junior doctors (referred to as “housemen” in Malaysia) quit before completing their two-year housemanship period(“Housemen do not complete training stint for various reasons”, 2015). More

alarmingly, he stated that this number has been growing over the past three years.

In the same press statement, reasons for this dropout were ventured. Besides burnout and inability to cope with long hours, other reasons also include having a totally different perception of a doctor's life and unsuitability for the profession since they were pressured to take up medicine by their parents. This study aims to explore whether or not clinical year medical students in Malaysia took up medicine out of their own interest or other reasons (eg. parental influence) and how these two groups differ when it comes to the perception of job demands and job control of working as doctors in Malaysia.

1.2 Background of Study

The term "house officer", or "houseman", is defined as a resident physician and surgeon of a hospital who is receiving further training, usually in a medical or surgical specialty, while caring for patients under the direction of an attending physician. In other countries, house officers are also known as "junior doctors" or "foundation year one doctors". An "attending physician" is defined as a physician who, as a member of a hospital staff, admits and treats patients and may supervise or teach house staff, fellows and students. An attending physician may also be

known as a “medical specialist”, defined as doctors who have completed advanced education and clinical training in a specific area of medicine.

1.2.1 The Process of Housemanship

The housemanship period is a compulsory training process with a minimum two-year period that house officers have to undergo to obtain their full practicing license (while in this period, the house officers are practicing under a temporary license). This practicing license will enable them to work as a medical officer in a chosen specialty. In Malaysia, there is a two-year compulsory service for a medical officer in government hospitals or clinics before they can opt for private practice or pursue their education and training to become a medical specialist(Kementerian Kesihatan Malaysia, 2006).

During the housemanship period, house officers have to undergo six compulsory postings which consist of different disciplines, namely Internal Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics, Orthopaedics, Accident and Emergency or Anaesthesiology (Ma’rof, 2015). Each of these postings have to be served for a minimum of four months, where they will be assigned to different wards, clinics, operation theatres or wherever in the hospital that the posting requires, depending on its specialty. During this period of four months, the house officers will be exposed to numerous cases and will be expected to complete certain

procedures. All these will be recorded in a logbook which will require the signature of the medical officer, specialist or consultant that was currently supervising them during a particular case or procedure. This logbook will be reviewed at the end of the posting and will also play a crucial role in whether or not the house officer can advance to the following posting or remain in the current one due to inadequate skills or knowledge. If it is the latter, the house officer will serve another added three months in the posting and will be reassessed at the end of this period. The process can repeat itself as there is no maximum period of time a house officer can stay in a posting. This is why the housemanship period is said to be a minimum of two years, although some house officers have been reported to serve longer than this period thus delaying the process of attaining their full practising license and career advancement.

When starting off at their first posting, a house officer's skills and experience are therefore heavily dependent on their prior training as medical students, besides their own coping mechanism and personality traits (Amzan, 2014).

1.2.2 The Medical Education and Its Comparison to Working Lives as Doctors in Malaysia

Understanding the medical education system in Malaysia is necessary in order to comprehend what the medical students go through before graduating and working as doctors in Malaysia.

Basically, the medical curriculum has evolved from the "traditional" to the "integrated" system here in Malaysia according to a consensus formed through a forum held at the Malaysian Medical Council Meeting on 29 November 2008 ("Training Future Doctors", 2009). Basically the "traditional" curriculum is disciplines-based is when courses such as anatomy, physiology, biochemistry and genetics are taught in the first year followed by pathology, neurosciences and pharmacology in the second year (Hecker, 2009) that consist mainly of lectures and tutorials. Whereas the "integrated" system is a combination of disciplines-based and organ-system based, where first year courses consist of the disciplines-based subjects mentioned above but the second year consists of these subjects divided in their respective systems such as renal, digestive, respiratory, etc (Hecker 2009). An important component of the "integrated" curriculum is the addition of problem-based learning, where students (in small groups) use triggers from the problem case or scenario (eg. a man who presents with a heart attack) to define their own learning objectives, followed by self-directed and independent learning before returning to the group to discuss what they have learned (Wood, 2003).

In most instances, each case is divided into two sessions and both sessions will be monitored by a facilitator who may or may not be well-versed in the field of medicine.

It is important to note that the integrated system promotes active and independent learning (Guner, Sakizli, Erdamar, Onvural, & Ceryan, 2010). All this takes place in the preclinical phase. By right, this would prepare the medical students accordingly for the next phase in their studies which is the clinical phase. This clinical phase is when the medical students are exposed to real cases and have opportunities to perform actual procedures on patients in clinics and hospitals. In some universities, this exposure comes earlier during the pre-clinical phase so as to ease the students into the clinical phase where the students are expected to acquire certain essential skills such as history-taking (also known as "clerking"), physical examination and assisting in procedures and surgeries. Introducing medical students to real patients early on in the preclinical phase helps narrow the gap and ease the transition between preclinical and clinical phase (Godefrooij, Diemers, & Scherpbier, 2010).

Therefore the clinical phase is a very crucial part where we can gauge the medical students' preparedness for practice. The exposure and experience they gain during this phase would determine their competence when

carrying the responsibilities of an actual doctor. Unofficial guidelines have been published in blogs in Malaysia on how to survive as a junior doctor or house officer, but an official list of responsibilities or even a survey among house officers in Malaysia regarding their job scope has yet to be done. However, in the United Kingdom, a survey has been done among junior doctors to determine what their job actually entails, and the top three items consist of venepuncture, discharge summary and investigation request; be it during the day or during on-call (Weinberg et al, 2013). According to the survey, the only time junior doctors get to practice what they were trained for during clinical phase of their medical education was whenever they have overnight duty, where they get to manage acutely ill patients and prescribe drugs. This is due to the fact that, when working overnight, the junior doctors become the front-liners in medical care and therefore they take over what their superiors would normally dictate during the day.

The case is similar in government hospitals in Malaysia where junior doctors (also known as house officers) are most exposed to cases and are trained to work independently whenever they are on the night shift; when fewer superiors are available for immediate reference but during the day, house officers are mainly submitted to administrative work (Pagalavan, 2011). Exposure to administrative work during their clinical phase as medical students, however, would be highly dependent on the student's own initiative since it is not included officially in the curriculum. For

example, when it comes to prescribing drugs, the most common pitfall for a house officer is lack of personal knowledge and experience (Ross et al, 2012). Locally, no journals have been published specifically regarding this matter but interviews with local doctors for The Star newspaper have highlighted that a house officer's job description is wide and can only be learned by working hands-on; not through the official medical curriculum (Entaban, 2012). This shows that there is a discrepancy between the tasks that medical students are exposed to during their student days and the tasks they actually have to perform as working doctors.

1.3 Problem Statement

The medical profession is without a doubt a demanding profession. Particularly for fresh medical graduates who have just entered the profession, the demands of the job may be daunting and overwhelming to the point of causing unmanageable stress, particularly if they have a different perception of how their working lives should be.

There is still a gap in literature regarding medical students' perception about their impending working lives as doctors in Malaysia even though for the past five years, more research has gone into studying medical students' preparedness for practice globally. One example is a study that revealed medical students themselves feel they do not have enough hands-on experience during medical school to prepare them for actual

practice as working doctors (Burford, Whittle, & Vance, 2014). Referring to the transition from being a medical student to a working doctor, a majority of students mainly feel intimidated by certain acts they have to perform as working doctors such as prescribing drugs and handling acutely ill patients (Prince, Boshuizen, Van Der Vleuten, & Scherpbier, 2005).

In Malaysia, although the issue is also a concern as depicted from various blogs done by local specialists, medical officers and house officers alike, research has been focused mainly on prevalence of stress and finding out the main stressors among medical students and house officers. Yusoff, Tan, & Esa (2011) found out the top ten stressors are mainly due to job demands and job control, examples being work overload, life too centred on work, unable to meet time pressures and deadlines and work demands affecting personal life. Despite the ongoing issues voiced out in local newspapers about the lack of competency among house officers in response to house officers reporting high levels of stress, research has yet to be done to find out why this is actually happening. Some speculations have been made; one of them is that these house officers are not aware of what their job entails, since most medical students took up medicine other than their own interest, for example parental pressure and the need for societal prestige (Pagalavan, 2011). Of course, these are mere speculations. Hence, this study will assess medical students' perception, particularly clinical year medical students', of their working lives as

doctors in Malaysia. This study will specifically look into their perception of job demands and job control, and will also find out whether or not they took medicine out of their own interest.

1.4 Conceptual Framework

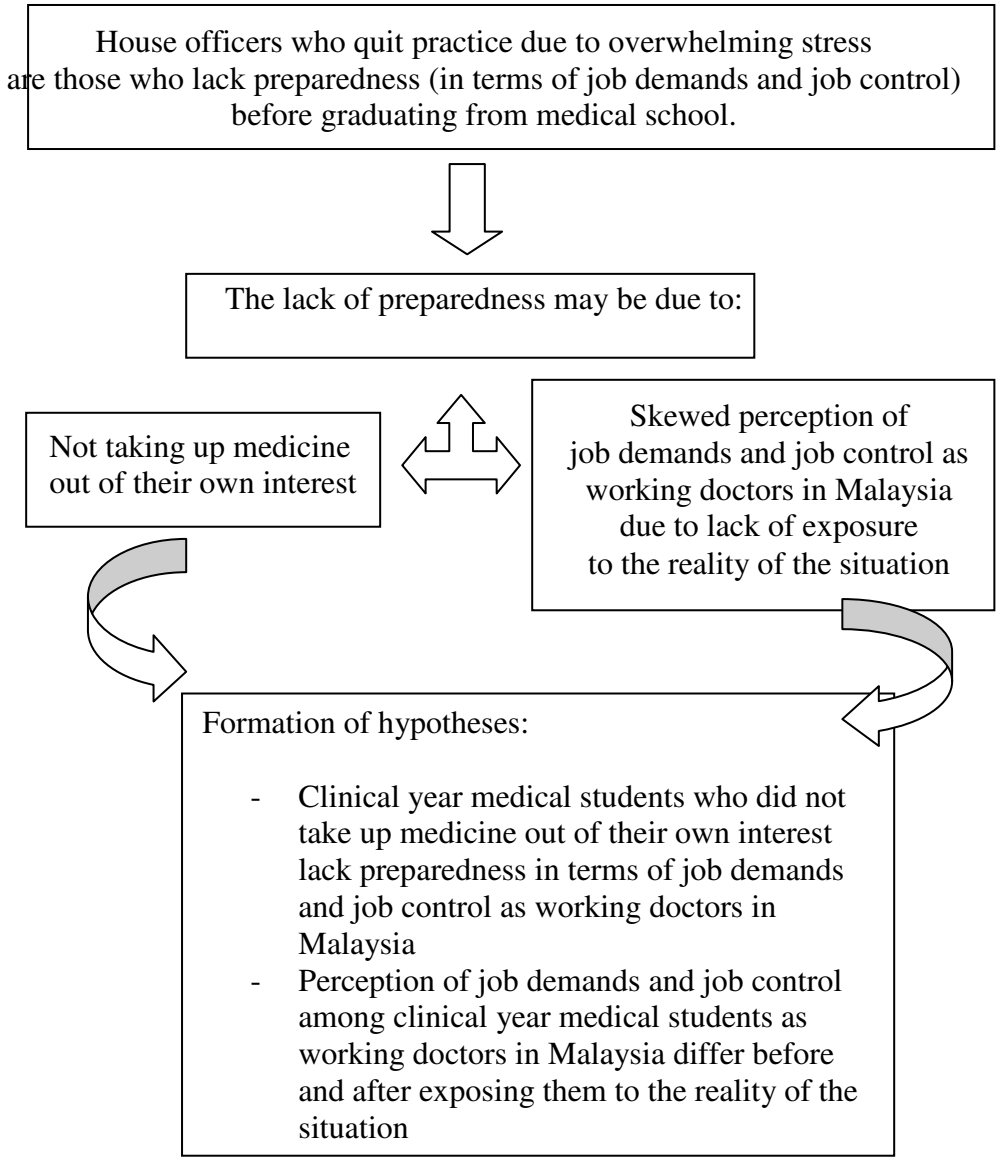

Figure 1.1. Conceptual framework towards understanding clinical year medical students' perception of their working lives as doctors in Malaysia.

1.5 Objectives of the Study

The objectives of this study are as follow:-

1.5.1 General Objective

This study assesses the perception of clinical year medical students of their working lives as doctors in Malaysia, particularly regarding demands and control of the job since claims have been made that fresh medical graduates who become house officers are not aware of the their "high strain" profession. It will also find out the reasons of medical students taking up the medical course, as assumptions have been made that house officers who face overwhelming stress are those who have not been exposed to high level of stress equivalent to the job scope and those who did not take up medicine out of their own interest.

1.5.2 Specific Objectives

1. To determine whether or not medical students took up the medical course out of their own interest.

2. To compare the difference in perception of job demands as a working doctor between clinical year medical students who took up medicine out of their interest and those who did not.

3. To compare the difference in perception of job control as a working doctor between clinical year medical students who took up medicine out of their own interest and those who did not.

4. To compare the difference in perception of job demands as a working doctor before and after the presentation of a short film about house officers working in Malaysia.

5. To compare the difference in perception of job control as a working doctor before and after the presentation of a short film about house officers working in Malaysia.

6. To assess clinical year medical students' thoughts of doctors in general (positive, negative or neutral) and feelings of becoming doctors themselves (positive, negative or mixed).

1.6 Research Questions

RQ1: Did clinical year medical students take up medicine out of their own interest?

RQ2: Is there a significant difference of perception in job demands between clinical year medical students who took up medicine out of their own interest and those who did not?

RQ3: Is there a significant difference of perception in job control between clinical year medical students who took up medicine out of their own interest and those who did not?

RQ4: Is there a significant difference in clinical year medical students' perception of their job demands before and after the presentation of audio-visual stimulus (short film) regarding the reality of their working lives as doctors in Malaysia?

RQ5: Is there a significant difference in clinical year medical students' perception of their job control before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia?

RQ6: Do clinical year medical students have positive, negative of neutral thoughts of doctors in general and do they have positive, negative or mixed feelings about becoming doctors themselves?

1.7 Operational Definitions

1.7.1 Clinical Year Medical Students

The clinical phase is when the students are exposed to hospital and clinic setting, along with its facilities such as operation theatre, rehabilitation centre and social work department. During this phase, the medical students are required to clerk cases (take their medical history and perform physical examination), present it to their lecturers, suggest the correct and appropriate management and even assist in procedures.

"Clinical year medical students" in this study mean medical students who are undergoing their clinical phase, either in the third, fourth or fifth (final) year of their medical course.

1.7.2 House Officers

"House officers" and "junior doctors" hold the same post; the term varies according to different countries. In Malaysia, "house officers" are medical graduates employed by the Ministry of Health and given provisional license by the Malaysian Medical Council to undergo training in government hospitals and clinics for a minimum period of two years; known as the housemanship period. After the housemanship period ends and the house officer is deemed qualified to practice as a safe doctor, the house officer can start applying for their annual practicing license (APC),

also given by the Malaysian Medical Council as a medical officer. Medical officers are then required to undergo two years of compulsory service with the Ministry of Health before pursuing the next step in their medical career; either to continue their studies and training to become a medical specialist in a chosen area or to remain as a general practitioner (Kementerian Kesihatan Malaysia, 2006).

1.7.3 Job Demands and Job Control

The demand-control model developed by Karasek (1979) focuses on stress whenever there is a tip in balance between job demands and job control. A job with high demands and low control will result in overwhelming stress. High demand conditions mean inadequate time to perform excessive workload whereas low control conditions mean reduced decision-making autonomy (Schnall, 1998). In the Karasek model, jobs that are categorized as 'high strain" jobs are the ones that have low control but high demands, which will eventually lead to risk of psychological strain and physical illness. High job demands can be anything that increases the urgency or increases the needs of the job scope. Low job control is a decrease in decision authority and skill discretion (Nakao, 2010).

In this study, "job demands" is defined as "urgent requirements or needs pertaining to workload, work patterns and work environment" whereas

"job control" is defined as "how much say a person has in the way they do their work" (Edwards, Webster, Van Laar, & Easton, 2008).

1.7.4 Perception

The definition of "perception" has long been regarded with much disagreement among psychologists, particularly in giving it a more scientific meaning (Attneave & Koch, 1962). Perception falls under socio-cognitive skills, and even under this category it can be divided into two categories; emotional perception and theory of mind (Mitchell & Phillips, 2014) where the former is regarded as a low-level perceptual process derived from affective cues and the latter is seen a higher-level cognitive process involving mental state reasoning.

This study focuses on the simpler and more sociological meaning of perception, where perception is defined as "interpretation made from received stimuli to produce meaningful insight" (Boeree, 2009).

In this study, the "received stimuli" comes in the form of the participants' own observation before the point of the study as well as the short film presented to them during the study.

1.8 Significance of Study

Although the amount of research on house officers in Malaysia has grown over the past five years, the transition between being a medical graduate and a house officer has yet to be understood. This research will serve as the initial step towards understanding medical students' perception of their working lives while still in their clinical phase. If the perception is skewed from what is considered the reality of working lives, then a program can be constructed to better prepare medical students psychologically so that upon graduation, they will be ready to work as doctors.

Being in a medical faculty herself, the researcher is also a committee member in the Medical Education Unit of Universiti Tunku Abdul Rahman. The researcher also actively partakes in the House Officer Preparatory Course organized by Ministry of Science, Industry and Technology (MoSIT) and Medicorp. Therefore, upon the completion of this research, the results can be used to assist in developing specific programs to prepare medical students psychologically in facing their working lives as doctors. This will in turn ensure a smoother transition period between medical graduate and house officer, creating front-liners of medical care with better quality.

Furthermore, infusing the medical curriculum with a medical humanities element (an arts-based method done to teach scientific subjects) has been proven effective to shape better doctors in most developed countries that have adopted this method, such as France and Ireland (Bleakley, 2015). Asian countries with medical programs have also begun to practice this, such as Pakistan (Shah & Aly, 2015). Although Malaysian medical faculties have also taken the initial steps, this research may help in understanding the medical students' psyche to shape an effective program that is especially catered to local students.

1.9 Summary of Chapter One

This chapter provides the overview of this research project. It describes the background and issues surrounding house officers working in government hospitals and clinics in Malaysia, research questions, objectives, significance of study and organization of this research project. It also provides some general outlook on the working lives of fresh medical graduates in Malaysia. The purpose is to provide reader a brief picture of the study. In the next chapter, past researchers' studies will be discussed to identify theoretical framework and potential hypotheses for this research project.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides literature review of studies done in the past, both locally and globally, that are relevant to this study. It also reviews current views on blogs and in newspaper articles regarding the issue at hand as to achieve a more wholesome approach for this study.

2.2 Job Demands and Job Control in the Medical Profession

The Karasek model (1979) that suggests high demands and low control in a job lead to high strain or high level of stress have been proved many times over in various literature. The Karasek demand-control model have been used to develop the job demands-resources model (Bakker & Demerouti, 2007; Demerouti et al., 2001) where another component – resources, was added. Resources here refer to aspects of the job that function to either achieve work goals, reduce job demands and/or stimulate personal growth (Bakker, van Veldhoven, & Xanthopoulou, 2010). This model stresses that high job demands does not necessarily need to be negative, particularly if the job resources can meet the high demands in which case would even result in high motivation among workers rather than high strain.

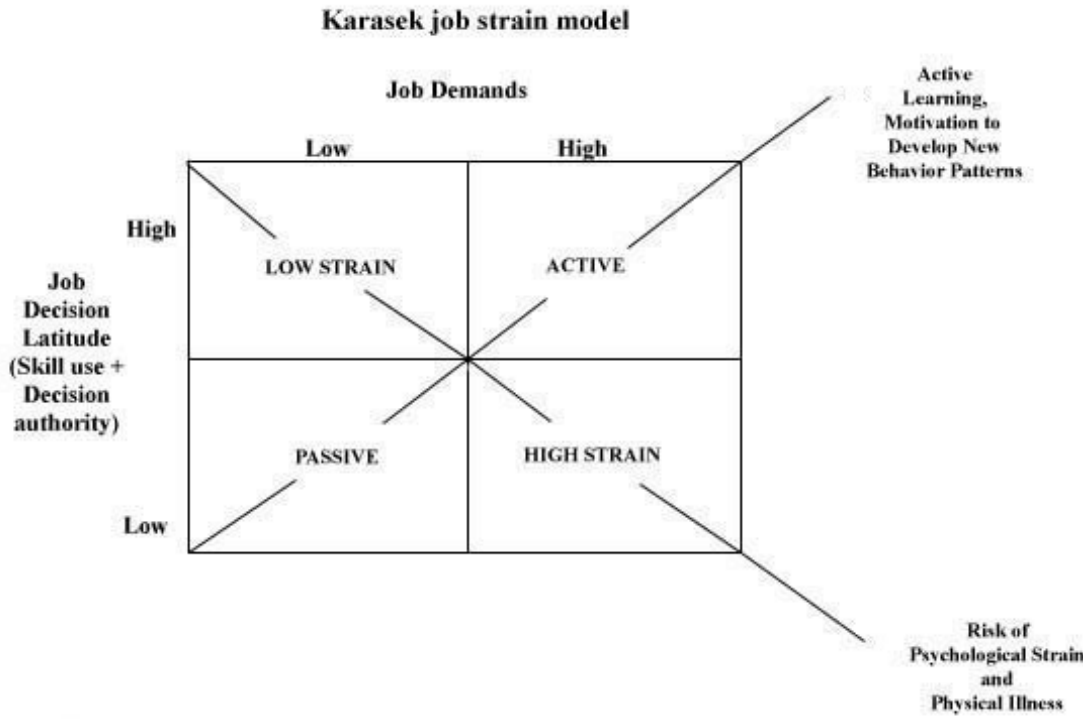

Figure 2.1. Karasek job strain model by Karasek & Theorell (1990). Reprinted from "A Brief Introduction to Job Strain" by P. Schnall, 2011. Retrieved from http://unhealthywork.org/ job-strain/a-brief-introduction-to-job-strain.

Studies have been conducted to classify different jobs according to the Karasek job strain model (Emery & Becker, 1998) and the latest being the Finnish Public Sector Study in 2012. The Finnish Public Sector Study places "physicians" in the high demands and high control section, translating it into an "active" job rather than a "high strain" job. The graph from the study is depicted below:

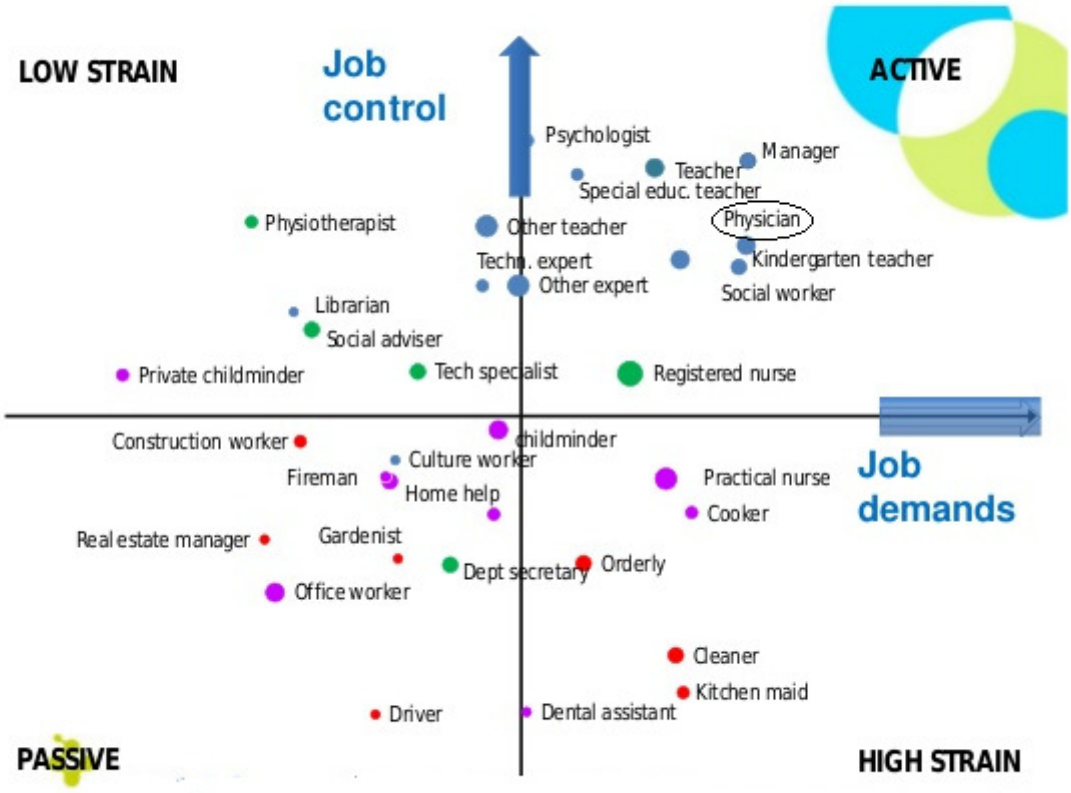

Figure 2.2. Data from the Finnish Public Sector Study 2012 based on Karasek job strain model. Reprinted from The Added Complexity of Resources, Employee Well-being and the Quality of Care by T. Oksanen, 2013. Retrieved from http://www.slideshare.net/THLfi/novo-oksanen.

From Figure 2.2, we can see that physicians are placed under the "active" category. However, the term "physicians" is a rather wide term which can mean doctors in general regardless of their hierarchy in the medical world; meaning they can either be house officers, medical officers or medical specialists.There is limited literature when it comes to using the model specifically on physicians. One study tested this model in primary care clinical environments where it was found that high job demands led to absenteeism and low job control translated into the physician's

intention to leave practice (Presseau et al, 2013). Primary care here refers to doctors working in daily clinics that normally do not function for twenty-four hours. Therefore, high job demands do not come in the form of long working hours but rather the emotional and mental drain they feel during their own shifts that would lead to absenteeism. Low job control in this study means that they are often subjected to bureaucratic red tape; for example, if they were to schedule a patient for imminent surgery, the referral process is arduous and quicker results cannot be obtained which would consequently cause frustration and intention of leaving practice. This is in keeping with a doctor's nature of taking up practice in the first place which is to help people. Therefore when they do not see this being materialized, or rather when they feel like they have failed to achieve this, burnout will occur.

Other than low job control, inability to divide enough time between work and home is also an issue among doctors. Previously another study applied the Karasek's high demand-low control model to medical residents in relation to the work-home interface, where they tried to gauge how the job demands interfere with the medical residents' personal lives (Bakker, Ten Brummelhuis, Prins, & Van Der Heijden, 2011). Sure enough, it was found that high workload among medical students caused high work-home interference.This should not come as a surprise since any demanding job is bound to take you away from home. However, seeing that this study was done among medical students who have yet to

graduate and start working as medical doctors and already they were faced with high workload goes to show that the medical profession is indeed very demanding and therefore requires better emotional and mental preparation.

Another study correlated effort-reward imbalance and depression among junior doctors where, although not directly using the job demands-control model, it was found that when there is high effort and low reward it will result in depression (Weigl, Glaser, Petru, Siegrist, & Angerer, 2013). This is another interesting perspective since the focus has always been on high workload whereas this study shows that doctors do not actually mind the workload as long as they feel satisfied with the outcome; the outcome here being a patient well served or commended by a superior for a job well done. This particular study uses the effort-reward imbalance model (Siegrist, 1996) where high cost and low gain would result in stressful condition. “Gain” here does not necessarily mean monetary gain but also promotion of high self-esteem, increase in efficacy as well as good job integration (Nakao, 2010).

From these studies, we can see that strong social support is important in maintaining an active job rather than let it veer into the high strain territory. That being said, this study will focus primarily on job demands and job control, since support cannot be perceived by medical students

who have yet to enter their working lives; the support component will vary from one workplace to another and can only be measured once a person is placed in the environment itself. Job demands and job control, however, are standardized and therefore can be perceived through the students' own observation as well as depicted in the short film used in this study.

2.3 Stress Among Medical Students

Although studies have been conducted worldwide regarding the effectiveness of medical education in relation to professional working lives as doctors, the data regarding this matter in Malaysia is still insufficient. Furthermore, the increasing claim by specialists (as mentioned earlier) of substandard house officers and junior doctors in the past three years should prompt a proper study to be conducted, to uncover the root of the problem as well as to validate the allegations made that these doctors are suffering from psychological problems.

The stressful lives of doctors have been illustrated by staggering figures of suicide among physicians which is 0.4 times more in males and 1.3 times more in femalescompared to the general population (Chen, 2010). Rewinding back a phase to medical students, the article highlighted that they experience depression, burnout and other mental illnesses even though they entered the medical school with a state of mind as healthy as

their non-medical peers. Possible causes of this include the social isolation of medical education where their interaction is limited to their professional field without much social involvement. This is perhaps worsened by workplace harassment in the form of bullying. Despite all this, medical students are highly critical of themselves and won't seek treatment even when they are aware of their deteriorating mental health and emotional state; afraid of being perceived as "weak" when they were told that the field requires a "survival of the fittest" attitude (Chen, 2010).

This situation is further confirmed by a study regarding the depression, stigma and suicidal ideation in medical students (Schweck, Davis, & Wimsatt, 2010). Using the 9-item Patient Health Questionnaire, students who suffer moderate to severe depression were detected. These very students agreed to the stigma of depressed medical students in which they would be less respected because they would be viewed as having inadequate coping skills and unable to handle responsibilities. They admit that telling a counsellor of their depression would be risky since they do not want to labelled incompetent.

Earlier studies have also depicted burnout and suicidal ideation among medical students. A three-year prospective study interviewed medical students at the start of their first year and later at the start of their third year (Dahlin & Runeson, 2007). Out of the 80 students interviewed, 21

(27%) were reported to have a psychiatric diagnosis but only six of them sought professional help. As the students move from first year to third year, some elements contributing to the deterioration of their mental health included worries about future endurance and capacity as well as financial concerns, although they did admit that their workload has lessened; this was probably due to the shift of focus towards clinical work rather than mugging the facts from all their basic sciences subjects.

Another study similar to this in the following year managed to collect a sample as large as 4,287 medical students from a total of seven medical schools (Dyrbye et al, 2008). Although this was a cross-sectional study (not longitudinal like the one mentioned previously), it achieved its aim to calculate the percentage of medical students experiencing burnout and suicidal ideation (49.6% and 11.2% respectively). These significant figures had perhaps prompted the lead researcher along with another team to study whether or not this has any effect on the desire of medical students to continue with their course; and the results indeed revealed another reality. In this particular study, 2,248 students participated from seven different medical schools and 11% of this number admitted to having serious thoughts of dropping out within the last year (a two-point review comparing the start of the year and the end of the year). "Serious thoughts" here meant that they have either considered other options, have met up with other people to discuss these options or they are already in the final phase of dropping out (i.e. arrangements have been made for

them to change courses). These students all tested positive for depression using the Primary Care Evaluation of Mental Disorders (PRIME MD) whereby, in relation to Maslach Burnout Inventory, they felt increased depersonalization, increased emotional exhaustion and decreased personal accomplishment. Because this was a two-point review, we could see whether feelings of burnout among these students were chronic or new and whether they have recovered from a burnout or even had a burnout in the first place. A majority of them experienced chronic burnout; meaning they were already experiencing it at the start of the study and never recovered from it - which indicated that medicine is a perpetually taxing course.

Previously, another study was conducted to study medical students' experiences of moral distress (Wiggleton, 2007). The sample was a total of 106 fourth-year medical students during a three-week period, to which 60% responded (64 students). The purpose of this study was actually to construct an instrument to measure moral distress, where "moral distress" was defined as "the negative feelings that arise when one knows the morally correct thing to do but cannot act because of constraints or hierarchies."

In this 55-item questionnaire that describe potentially distressing situations, the higher frequency/high-distress items were noted to be when students were in situations that they perceive a direct, negative

impact on patient care, and when they witness behaviour that is directly disrespectful to others. These are situations that the medical students actually face when working in a hospital setting along with a resident doctor, causing them moral distress. Therefore, the study has somewhat made them aware that these situations exist.

Longitudinal studies of stress have been done on medical students to determine the increase or decline as they progress in the course. A study showed a decline of stress levels in medical students at a college in Saudi Arabia from their first year (78.7%) to fifth year (48.3%) (Abdul Ghani et al, 2011). But this was cross-sectional and not cohort therefore it might not provide an accurate insight. The decrease of stress level as the year progresses is attributed to the fact that they are no longer plagues by financial worries and they have also developed coping mechanisms and more confidence. But a more pressing possibility is that the severely stressed students have already dropped out earlier, given that the prevalence of stress in second, third and fourth year are 70.8%, 68% and 43.2% respectively. Although there is a steady decline from the first to fourth year, a slight increase is seen in the fifth year - which may be cause by the anxiety if final professional exams or the reality of their working lives sinking in.

Other similar studies have also been done with similar results; showing an increasing trend particularly the transition from basic science to

clinical year (third to fourth year). Another study showed a progressive increase as high as 40% by the end of a six-year medical program (Niemi & Vainiomaki, 2006), whereas another study indicated that the stress level worsens and remains poor throughout the course (Dyrbye, Thomas, & Shanafelt, 2005).

Locally, the prevalence of stress among medical students were found to be 29.6%, where the top ten reasons were all academically-related (Yusoff, Abdul Rahim, & Yaacob, 2010). The top three reasons were tests and examinations, the vast content they need to study and the lack of time to review what they have learned. This is very different than the challenges they have to face when they become house officers, where it was apparent in another study regarding the prevalence among house officers in Malaysia in which the top stressors were fear of making mistakes, work overload and working with uncooperative colleagues (Yusoff, Tan, & Esa, 2011).

Scrutinizing these two studies, what comes into question is whether or not our medical students are prepared, particularly mentally and emotionally, to practice as house officers in Malaysia. The transition period would of course require some time, but no study has been done locally to assess their preparedness for practice.

2.4 The Transition between Being a Medical Student and a Working Doctor

In any career, there is a transition period between being a student and being a practitioner in a particular field. A special area of study has even been dedicated towards integrating learning within communities of practice to provide relevance; not only so that students commit what they learn to memory but also to get the hang of things even before they start practicing professionally (Lave & Wenger, 1991).

As mentioned in Chapter One, more medical schools have developed an integrated system where both vertical and horizontal integration play an important role not only to merge both pre-clinical and clinical phases more effectively, but to ease medical graduates into their working lives more efficiently. Vertical integration means clinical aspects of the curriculum will be introduced earlier in the pre-clinical phase as well as constantly revisiting basic clinical science when the students are in clinical phase; horizontal integration is the use of interdisciplinary training involving the organ-system-based curriculum taught via problem-based learning (Hassan, 2013).

A recent cross-sectional study using the Dundee Ready Education Environment Measure (DREEM) to assess undergraduate medical students' perception of their educational environment in their first, third,

fifth and seventh semesters (the final one being in the clinical phase) in a medical school in United Kingdom reported that as their course progresses, they find themselves too tired to enjoy the course as they were more stressed towards graduating from the course (Pai, Menezes, Srikanth, Subramanian, & Shenoy, 2014). This is likely as students in the clinical phase carry more responsibility as they shadow house officers and are expected to gain more knowledge and develop more skills.

The DREEM had also been used in a Malaysian medical school, which revealed some unique results reported by the students regarding their clinical phase, among them being that the teachers were quite harsh during this phase, the significant stress leads to poor memory and academic dishonesty became more apparent in this phase (Yusoff, Jaa'far, Arzuman, Arifin, & Mat Pa, 2013). This, in comparison with the one done in United Kingdom, might show that a different environment among medical students here in Malaysia which perhaps can be attributed to a different cultural and social background. This study will not be studying those factors, but the fact that the medical students perceive their clinical phase as such should give them an idea of their working lives since the clinical phase is considered a shadowing period where they would observe and follow actual house officers working in government hospitals.

That being said, it has to be clarified that the learning experience in clinical phase of medical school is highly dependent on the student's initiative, the hospital staff's reception and the teaching staff's attitude. Perhaps, due to this, some medical schools have begun an assistantship program, such as The Medical School at Queen's University Belfast (Braniff, Spence, Stevenson, Boohan, & Watson, 2015). In this assistantship program, final year medical students will take up most of the responsibilities of a junior doctor under close supervision as opposed to just observing and offering their services on a voluntary basis. Ninety-three percent of the students who participated agreed that this assistantship program has improved their preparedness for starting work.

Another study which involved an intervention in the form of a five-day induction program involved 26 newly qualified doctors from a district general hospital (Evans, Wood, & Roberts, 2004). This program, compared to the one mentioned earlier, takes place after graduation instead of before. These doctors had to complete a questionnaire as well as undergo an objective structured clinical examination (OSCE) on four core clinical skills at three different stages – prior to the induction, on completion of induction and one month into working life. This was to assess the extent of their preparedness for working life. Although 26% failed on one or more skills at the post-induction stage, all were deemed competent at the final stage which was one month into working life. This

study was done mainly to assess their skills and knowledge rather than their psychological preparedness for their working lives.

Research and programs have been introduced to better prepare medical graduates to become good house officers and junior doctors, but little has been done to prepare them psychologically. According to Anthony Montgomery, an associate professor in the psychology of work and organizations, the medical profession is set up for burnout and stress because much emphasis is placed on technical capabilities but they lack the tools to navigate social interactions effectively (Sifferlin, 2014). From this, it is implied that the psychological component instilled in them from their student days that lead up to being doctors have not been adequate in measure to their highly demanding job.

For that, research regarding medical students and medical graduates' perception of their future working lives were looked into. A longitudinal study involved 60 medical graduates, 20 of them from three different medical schools in the United Kingdom, interviewed at three different stages: at the end of their medical course, four months after being a house officer and 12 months after being a house officer regarding their preparedness for practice (Illing et al, 2013). The areas in which they felt they were prepared for were communication skills, clinical and practical skills and team working. However, the areas in which they felt they were

least prepared were more; which included experiential learning, ward work, being on call, management of acute clinical situations, prescribing, clinical prioritization and time management and dealing with paperwork.

All these areas are vital areas in practice, and having medical graduates being unprepared for these should be a cause for concern. The study stated that this may be caused by a lack of hands-on experience as compared to the past where student doctors were allowed to be more involved in patient care; now, due to the apprehension for patients' safety, student doctors tend to just stand by the wall and observe rather than partaking in a procedure directly. However, again this illustrates the technical capabilities the students are supposed to acquire rather than their psychological preparation. Although there is a lack of literature regarding psychological preparation among medical students specifically, the impact of this can be seen from research studying the prevalence of depression and other mental health problems among working doctors.

A longitudinal study was done on students in University of Oslo, Norway during their graduating semester, then approximately one year later during their internship period to assess the impact of their job stress, out of which 11% was reported to suffer from mental health problems (Tyssen, Vaglum, Gronvold, & Ekeberg, 2000).

Another study that involved 109 pre-registration house officers in the north east of England revealed that 38.5% of women and 24% of men suffered from possible psychological stress, out of which 38.95% of women and 5.4% of men suffered from possible anxiety while 8.3% of women and 2.7% of men were suffering from possible depression (Newbury-Birch & Kamali, 2001).

With the advancement of the integrated medical curriculum, we would be curious to know whether the medical schools that have implemented this curriculum produce medical graduates that are prepared for practice. A study regarding how well have medical schools prepared doctors working nationwide in United Kingdom with 1,353 respondents answered the survey on a 5-point Likert scale where 4.3% strongly agreed, 32.0% agreed, 22.5% neither agreed nor disagreed, 29.7% disagreed and 11.6% strongly disagreed (Goldacre, Lambert, & Turner, 2003). One respondent wrote that in medical school, there was "not enough emphasis on real life situations."

Whether or not medical students are aware of the psychological challenges of their impending career has yet to be gauged clearly. With this realization, doctors who are already in the battlefield feel compelled to share their wisdom with the younger ones. Reaching out via social

media; a medium commonly used by medical students nowadays, bits and pieces of reality were offered to their idealistic eyes. Shadowfax(2013) shared tips of dealing with psychological stress of being a doctor. Whenever it comes to dealing with patients and diseases, the words "professional detachment" will always come to play. Despite being faced with hopeless situations and bad prognosis, doctors need to always remember diseases act on their own accord. That being said, emotions still tend to surface and repressing them should not be part of professional detachment. Most hospitals practice formal critical incident debriefing; simply put, session held after any devastating event where the healthcare personnel are given a chance to voice out how they feel about it. But this in itself raises several questions - why only critical cases? And more importantly, does it work?

From the previous studies, we have gained insight of how medical students do not want to be perceived as weak, mentally and emotionally. This attitude may carry over once they start working which would result in shame whenever they handle a bad case. Even as it is, doctors have been reported of treating tragedy as comedy (also known as "gallows humour") as a form of defence mechanism. For example, the popular TV series Scrubs constantly use dark humour to convey a serious issue and it somehow resonates with doctors, medical students and health personnel.

Stress is of course not unique to just the medical profession. There are two underlying fears that undoubtedly lead to stress; fear of making a mistake and fear of being criticized or yelled at (Newman, 2012). Although these can be encountered in any profession, we can only assume that these fears are heightened in doctors. When dealing with people's lives, making a mistake is more than a legitimate fear since the term "damage done" is not as trivial as paperwork. If death occurs, the path divides into two - extra vigilance when treating other patients, or prolonged trauma that may result in psychological disorders.

Fear of being criticized or yelled at is also a valid concern, given the trust and status automatically earned by doctors. As a society, we place doctors on a high pedestal and it is with this realization that doctors feel the need to protect their reputation in the eyes of patients. Being yelled at by a superior in front of a patient will lead to a bruised ego and, if done repeatedly, will result in low self-esteem.

Globally, doctors serving the profession themselves are beginning to recognize that more and more of their colleagues (and even themselves) are leaving the field. A very recent article titled *The Drop-out Club: Why Medics Are Leaving the NHS*explores why doctors in the United Kingdomdo not find it appealing to stay in practice (Midgley, 2014). A 2010 study showed that nearly a quarter of junior doctors in England

drop out after two years, while another American study in 2012 discovered that 9 out of 10 doctors wouldn't recommend their job as a career (Burns, 2014).

The article further revealed that among the deterrence of continuing practice in medicine is the bullying culture as well as the breakdown of the team apprenticeship model. A doctor turned talent-transition specialist, Evgeria Galinskay who has dealt with many medical dropouts, said that the reasons were mainly lack of recognition, empowerment and wellbeing. Some doctors, although very passionate and willing to devote their time and energy to the field, are frustrated because the job has been reduced to box-ticking since everything now is so protocol-driven with no room for improvisation. Farhana Sofia, another doctor who have turned away from the profession also admitted that most doctors didn't know what they were getting themselves into when they took medicine, because the decision to commit was commonly made around the age of 13 to 14 when they barely know who they are, let alone what they want to do for life.

Deonarain (2013) addressed this matter recently with an article titled “Three Questions Doctors Should Ask Themselves in 2014”. Instead of ‘Why did you take up medicine?’ he posed the question ‘Why do you want to stay in medicine?’ and proceeded to asking what would be an

alternative route that they wish to do and why aren't they doing it. These questions, though they may seem trivial and offhand at the surface, goes deeper into these doctors' psyche in discovering what their actual desires are when it comes to what they want to do for life.

In the United Kingdom, the National Health Service website has started to provide prospective medical students with points to consider upon taking up medicine - both pros and cons. In Malaysia, our Ministry of Health has yet to address this although many doctors have taken their own initiative in preparing orientation programmes for doctors about to enter the government hospitals. For medical students (or those considering to take up medicine) in Malaysia, however, they still have to rely heavily on blogs for information and various opinions regarding the medical career. But these blogs vary in shades; some would shed a positive light while some feature a darker side. Either way, medical students are still in the dark when it comes to the reality of their working lives as doctors in Malaysia.

2.5 Stress Among House Officers

This aspect of the study is important determine the significance of stress in house officers; the next step in a medical graduate's life. If it is indeed stressful, medical graduates should be aware of it and better prepare themselves for it.

Stress among doctors working in government hospitals have been studied in various countries at a global level. The latest study done in Karachi, Pakistan showed that out of 269 house officers who participated in the study regarding perceived stress and stressors, 47.9% were found to be under stress (Hassan, Hussain, Ahmed, Fraz, & Rehmat, 2014). The top fivestressors included night calls, workload, time pressure, working alone and coping with diagnostic uncertainty.

Previously, a case study conducted in Abbottabad, Pakistan revealed that house officers in the district face multi-factorial stress in their job, the main factors being lack of resources, work overload and lack of communication and comfort with supervisors and colleagues, all of which had resulted in low job performance (Kazmi, Amjad, & Khan, 2008). Fifty-five house officers in the particular hospital were taken as a sample, working in various wards. Stress level was reported highest in the medical and surgical wards, as there were more beds being allocated to these wards due to high amount of cases subjected to these fields. Overall, the male house officers faced more stress than the female house officers in all factors. Interestingly, the male house officers reported a higher percentage of stress when it comes to lack of communication and comfort with supervisors and colleagues. Whether or not there was a gender-related issue to this, it was not further explained in the study.

Another study had reviewed publications regarding ethical challenges faced by house officers in Western settings 1994 onwards, and stated that the nature of the job which required house officers to rotate their placements or postings every few months would, in itself, cause stress due to social isolation and inadequate support by the administration (McDougall & Sokol, 2008). This is also faced by our house officers, in which they would spend a minimum of four months in a posting, provided they are not extended in the particular posting by their superior (mainly due to perceived lack of skill and/or knowledge in the posting), before they would move on to an entirely new department. In each new department, they will go through a period called "tagging" – where they are required to work from 7:00 A.M. till 10:00 P.M. every day for 10-14 days. The objective of tagging is for the house officers to familiarize themselves with how the department works and, most importantly, to prepare themselves before they go for on-call duties (where they work from 7:00 A.M. until 5:00 P.M. the next day) or night shifts, when they are practically managing patients on their own. This, in itself, has been known to create much anxiety among house officers.

With the implementation of the Flexi Hour Shift System since September 2011, house officers are required to work in shifts either from 7:00 A.M. to 6:00 P.M. (morning shift), 11:00 A.M. to 11:00 P.M. (afternoon shift)

or 10:00 P.M. to 10:00 A.M. (night shift); in a week, house officers are ideally supposed to perform two morning shifts, two afternoon shifts and one night shift per week with one day off (Rampal, 2013). According to this, a house officer will only work less than 60 hours per week, which is supposed to reduce their stress. Nevertheless, the prevalence of stress among them persists.

A study of stress amongst house officer in Malaysia using the validated, Malay Depressive and Stress Scale 21 and General Stressor Questionnaire found that 60.7% out of the 89 house officers who participated in the study were found to be anxious (Tan et al, 2013). This was consistent with the percentage presented during the Collegium Ramazzini Day Seminar in October 2013, where the prevalence of stress among house officers was stated to be 65.2% (Rampal, 2013).

In the earlier study, among the causes of stress listed were work-related challenges, performance pressure, poor relationship with superiors and colleagues, bureaucratic constraints and poor job prospects (Tan et al, 2013). Again, this was consistent with the causes presented in the above seminar whereby the stressors included work overload, pressures of making decision and making mistakes, poor relationship with supervisors, job insecurity and limited resources and support (Rampal,

2013). Another stressor which was interesting to explore was work demands affecting personal life (Rampal, 2013).

Another study regarding emotional burnout and perceived job stress among house officers in Malaysia had a larger sample size of 205 participants with 36.6% of them reported high level of emotional burnout (Al-Dubai, Ganasegaran, Perianayagam, & Rampal, 2013). The most common source of job stress reported in this study was fear of making mistakes and some were also dissatisfied that the housemanship period has been prolonged to two years instead of what was previously a one-year period.

All these studies were done after the implementation of the Flexi Hour Shift System in September 2011. Before that, a study had assessed the stress, stressors as well as the coping strategies among house officers in a Malaysian hospital which found that approximately 31% of the house officers who participated in this study were in distress (Muhammad Saiful, Tan, & Ab Rahman, 2011). It is rather alarming that in spite the fact that the Flexi Hour Shift System was instigated partly to reduce working hours (therefore reducing stress), the percentage of stress among house officers have significantly doubled.

A response from the Director-General of Health, Malaysia regarding the complaints of stress among house officers on his official website said that the Flexi Hour Shift System has been improved in January 2014 where house officers are required to work only 65 to 75 hours per week and entitled to one-day off per week. A critical allowance of RM750 a month and special allowance of RM600 a month have also been included in their salary. However, he stressed that house officers must understand that their job as front-liners in healthcare to a large number of patients is demanding and necessitates dedication and perseverance.

From all this, it can be summarized that globally, the main stressor for house officers would be workload and long working hours whereas locally, the added stressors on top of that would be strained relationships with superiors and supervisors. High workload and long working hours still remain as stressors locally despite the implementation of the shift system. As for the strained relationship with superiors and supervisors, this might be perceived as a temporary thing since house officers will eventually be medical officers and maybe medical specialists. Can it be assumed then that the stress level and prevalence of mental health problems will decrease when they become medical officers?

To answer this, stress among medical officers both globally and locally are looked into.

2.6 Stress Among Medical Officers

In Malaysia, after passing the housemanship period, house offiers are deemed adequately trained to gain their full practicing license, and therefore will proceed to become medical officers. However, the field of medicine is such that the challenges do not cease after the training has been completed. In fact, since the doctors are now fully qualified, they are expected to carry more responsibilities, besides achieving their own goals of specializing in a particular field.

Locally, an analysis of job satisfaction amongst government medical officers has also been done which showed that the determinant factors included salary, job promotion, working hours, benefits, equipment and facility (Omar, Muda, & Wan Mohd. Amin, 2009). As can be seen from this study, salary and job promotion are the main concerns of a medical officer, but long working hours still remain a consistent complaint that leads to low job satisfaction.

A comparative study was done to compare the job satisfaction between hospital doctors in Norway and Germany (Rosla, Nylenna, & Aasland, 2009). Although the system in Norway had improved and the regular weekly hours have been stable at 38 to 40 hours with continuous growth

of salary over the years, resulting in greater job satisfaction in comparison to their German colleagues, the profession is such that it still does not provide sufficient rest periods, leading to exhaustion associated with psychological and physical health complaints.

This particular study has helped to put into perspective the current working hours for both medical officers and house officers in Malaysia. For house officer, although the number of hours has been reduced from previously (where no maximum hours was stated) it is still a good 20 hours more than the limit set by a country such as Norway, despite the fact that we have already reached a doctor-patient ratio of 1:800 as of April 2012. The situation does not improve once a house officer becomes a medical officer either. Despite house officers now working in shifts, medical officers still have to do on-calls in which their working hours are 8:00 A.M. to 5:00 P.M. but if they are on-call, they are required to work from 8:00 A.M. to 1:00 P.M. or 5:00 P.M. the next day (Rampal, 2013). On average, medical officers have to go on seven to eight calls per week. The workload for a Malaysian medical officer is 15 to 20 patients per day in general hospitals and 50 to 60 patients per day in district hospitals.

All these indicate that the profession itself is indeed stressful, despite improvements being made in the system to compensate for the job demand. There is lack of autonomy and a substantial amount of

workload, which corresponds to the Karasek's job demand-control model where a job with high demand and low control would lead to stress (Karasek, 1979). Although this may seem like pointing out the obvious, the bigger question that comes into play is whether or not medical students perceive their impending work life as a high demand-low control profession?

2.7 Preparedness for Practice

Studies on preparedness among medical students for their medical practice have only recently begun to accumulate. However, most of them still focus on technical aspects of the job rather than the psychological preparedness to brave the multi-faceted and people-oriented profession. One study in particular involved junior doctors' self assessment of their preparedness for work after they have completed their medical education, in which they reported to be most prepared for history-taking, physical examination and hygiene whereas they are least prepared for pharmacotherapy, documentation and quality control as well as intubation (Ochsmann, Zier, Drexter, & Schnid, 2011). But from this, we can see that it focuses on technical readiness instead of psychological preparedness. As it has been mentioned before, literature on this particular subject is still scarce.

Regardless, there are some literature on house officers and junior doctors and how they perceive their mental and emotional readiness in retrospect while in the current condition as working doctors. The most relevant being a study that investigates the impact of training and working conditions of junior doctors in relation to their intention to leave practice (Degen, Glase, Li, & Angerer, 2014). In this study, junior doctors reflect that, as fresh medical graduates who have become professional working doctors, their workload is double the amount compared to other doctors since they not only have to fulfil a highly demanding job but they have to learn on the job as apprentices as well. Furthermore, they reported low income (not proportional to their job demands), poor working environment, long working hours and poor support as the main factors of their intention of leaving clinical practice. Locally, there is yet to be a similar study that boldly investigates house officers' intention to leave practice, despite national statistics of one out of five house officer quitting clinical practice every month (Jeyaindran, 2015). Perhaps this is due to the fact that leaving the medical profession is still considered taboo, since the medical profession is highly regarded in the society.

Globally, however, the awareness of junior doctors quitting practice have led to further research on why this phenomenon is taking place, mainly by studying their own perception of their job and how they perform. Self assessment has been done by medical graduates of their clinical competency and this assessment has been compared to experts'

assessment of them (Abadel & Hattab,2013). In the study, a wide discrepancy is shown between the two assessments where the medical graduates feel they are competent but the experts feel they are lacking in many vital areas. This shows that, until put to the test, medical graduates have yet to understand what the job requires of them.

Transitions in the medical profession are inevitable and may cause stress in terms of adapting to a new situation on top of what is already expected. Those in the medical profession would have experienced three clear transitions; each transition not without its own challenges (Teunissen & Westerman, 2011). As medical students, they move from non-clinical to clinical phase as medical students where they need to relearn what they've learned in the non-clinical phase and learn new things in the clinical phase. After they graduate, they become junior doctors or house officers who not only have to focus on patient care but have to continue learning on the job. Becoming a medical specialist is another important transition where they now have to make decisions on how to delegate responsibilities.

All these transitions have to be made aware to medical students in the earliest phase possible in order to better prepare them psychologically. It will be a long and arduous process and they have to consistently keep up with it. A study among junior doctors during their first year of practice in

New Zealand reveals that it is not only about doing concrete tasks which will test their clinical competency and management skills, but it will challenge their identity formation as well (Sheehan, Wilkinson, & Bowie, 2012). What it means by this is that junior doctors have to fully understand their role as a cog in the big machine that is the medical profession; and as much as they carry their idealistic views on being a doctor, they also have to acknowledge the hierarchy system that exists and adhere to it.

2.8 Family Influence in Choosing the Medical Course

In Malaysia, a career choice is made as early as 17 years old; as soon as adolescents finish high school and have to decide on a course that will most probably determine their career pathway. At such a young age, generally parents and family members have a bigger influence in their lives (Pruthi et al, 2013).

A report in India studying medical students in a teaching hospital found that a large subset of students chose medicine out of family influence and were attracted to the romanticized notion that a career in medicine holds more power and the ability to take decisions independently (Pruthi et al, 2013). This is congruent with a study that explored the impact of family influence on the career choice of adolescents (Palos & Drobot, 2010). In this study, it was stated that mothers in particular play a very active role

in initiating career plans for their children, as well as provide psychosocial support.

A psychology report in America specifies Asian American parents as those heavily involved in their children's career pathway; especially highly-demanding careers such as medicine and engineering as they assure well-paying jobs (Poon, 2015). Dubbed as "the model minority", Asian Americans value high academic standards to fulfil familial and societal expectations of being white-collar workers (Panelo, 2010).

Being a part of the Asian community, Malaysian families probably practice the same principles. However, there is a lack of literature regarding the matter and those found are only in other Asian regions. A study of motivation and preparedness among first year medical students in India revealed that family is a strong motivator (Shankar, Singh, Gautam, & Dhaliwal, 2013). Another study in a medical school in the United Arab Emirates also showed that parents have a significant influence on school-leavers' choice to enrol in medicine (Ausman et al, 2013).

Another study that is very much relevant to this point explored the factors affecting undergraduate medical students' performance and

revealed that parental pressure and dissatisfaction with career choice are directly linked to poor performance (Mandal et al, 2012).

Therefore, this research will also gain insight to the medical students' initial reason of becoming a doctor and whether or not it affects their perception of their impending working lives as doctors in Malaysia. Following the footsteps of the successfully-implemented studies worldwide in the aim of improving the well-being of medical students, this research intends to assess clinical year medical students' perception of their professional working lives in order to reach a bigger goal of enhancing the psychological component in the medical curriculum. This, in turn, would benefit the students by being more psychologically-equipped to face the demands of the medical profession. In the long run, this will also benefit the society as a whole by receiving quality healthcare well-trained and, most importantly, psychologically healthy personnel.

2.9 Audio-Visual Medium in the Medical Curriculum

Movies, documentaries and narratives have been used to enhance the learning process in various courses; medicine not excluded. For example, a group of medical students from Chulalongkorn University, Thailand had launched a pilot project to use movies to help students learn medical professionalism, which was proven to be effective and entertaining as

well (Lumlertgul, Kijpaisalratana, Pityaratstian, & Wangsaturaka, 2009). Another study done further discussed the effectiveness of developing empathy in a physician via illness narratives which was implemented at the University of Michigan Medical School (Kumagal, 2008). Even further back, video cases have been used instead of text cases for problem-based learning (Leng, Dolmans, Van de Wiel, Muijtjens, & Van Der Vleuten, 2007). For this particular study, students have evaluated video cases as valuable stimulus compared to text cases since they were able get a more realistic mental picture of the diseases being discussed.

Medical students, in particular, need to be more involved with people than paper since that is what their profession entails. In their clinical years, they will interact more with patients as the clinical phase is a more ward-based curriculum compared to the pre-clinical phase where most of their learning still takes place in the classroom. This research will be focused on clinical year medical students who have been exposed to a working environment and therefore more familiar to what they will face when they become doctors; hence why they are taken as the sample for this research. The short film that is shown to them will encompass the reality of working lives as doctors in Malaysia as approved by a group of practicing doctors from all over Malaysia.

The reason why a short film is used as a part of this research is three-fold: one, short films or film vignettes have been proven effective as a medium of learning to discuss difficult issues among medical students (Johnston & Chan, 2012). The second reason is that the advancement of technology has helped doctors in sharing information (Bullock, 2014) therefore can be manoeuvred to relay experience and information from medical doctors to medical students. The third reason is the use of media can stimulate reflective behaviour among medical students (Brown, 2010). As it is, the current college-going generation is strongly influenced by social media due to the use of images and videos.

With this in mind, the purpose of the short film in this study is not only to project a fragment of reality to the students answering the questionnaire, but also to provide a more intriguing experience in order to ensure participation. Inadvertently, this is also to observe the effect of audio-visual representation on the students' perception. In keeping with modern times, where young adults are highly influenced by movies and TV serials as a depiction of real life (for example, frequent references to medical TV serials such as House, Grey's Anatomy, Scrubs etc.), the documentary serves as a medium to facilitate the students' reasoning process.

2.10 Reflexivity

The researcher herself has also gone through medical school, housemanship and is currently teaching medical students in a medical faculty. Therefore, personal account had served as valuable baseline knowledge and provided a better understanding of the subject. Personal bias was eliminated by grounding the research on an existing theory (the Karasek job demand and job control model) and validated tools (as will be elaborated on in the following chapter).

2.11 Summary of Chapter Two

This chapter provides an overview of existing literature regarding important components that make up the theoretical framework of this research. This information, taken mainly from journals and articles, serve as a guide towards creating a study that will fill in the gaps in literature on the subject as well as to construct a better understanding on the issue.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section will explain the research questions and research design. The research instrument will also be elaborated, including the usage of a short film. This comes together with the field study and pilot study needed for this research.In order to better understand the research design chosen, we can revisit the research questions of this study as stated below:

RQ1: Did clinical year medical students take up medicine out of their own interest?

RQ2: Is there a significant difference of perception in job demands between clinical year medical students who took up medicine out of their own interest and those who did not?

RQ3: Is there a significant difference of perception in job control between clinical year medical students who took up medicine out of their own interest and those who did not?

RQ4: Is there a significant difference in clinical year medical students' perception of their job demands before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia?

RQ5: Is there a significant difference in clinical year medical students' perception of their job control before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia?

RQ6: Do clinical year medical students have positive, negative or neutral thoughts about doctors in general and do they have positive, negative or mixed feelings about becoming doctors themselves?

These research questions were formed from the conceptual framework of this study, which led to the literature review. The literature review had focused on stress and mental health problems (such as depression and anxiety) among three phases of the medical profession; medical education i.e. medical students, job upon graduation i.e. house officers, and job upon gaining full practicing license i.e. medical officers.

The reason why the literature review was focused on these elements was because they were parameters that can be used to ascertain that the medical profession is a highly demanding job. Using the Karasek's job demand-control model, further reading was done regarding the use of this model to study the medical profession. Since there are gaps in literature on this, this research intends to focus on job demands and job control of the medical profession and how they are perceived by those about to enter it; clinical year medical students.

Their perception will be tested based on their own knowledge and experience, as well as the presentation of an audio-visual stimulus in the form a short film which consists of a piece of reality about their working lives as doctors in Malaysia.

The literature also covered the topic of family influence in choosing the medical career. The reason why this topic was covered is because there have been assumptions that young doctors have taken up medicine not out of their own interest but out of family influence and therefore they are not psychologically prepared to face a demanding working life. Therefore, this study will look into comparing two groups of clinical year

medical students: those who took up medicine out of their own interest and those who did not.

3.2 Research Design

The research design for this study is based on a mixed method approach. This approach is used for the research because although most questions can be quantified into a scale, some answers require open-ended questions to be obtained and only later on be grouped into systematic categories.The design strategies used are sequential explanatory and concurrent nested whereby the former strategy collects both quantitative data and qualitative data but uses the qualitative aspect to further explain the quantitative part; whereas the latter strategy gives priority to one of the methods (in this study, the quantitative section) but uses the other "nested" method to address a different question than the dominant ones (Creswell, 2003).

The first research question requires a "yes" or "no" answer to the close-ended question "Did you take up medicine out of your own interest?" and subsequently an open-ended question "If no, who influenced, encouraged or motivated you to become a doctor?" to explore the different reasons of taking up medicine. After the grouping has been done which is dividing those who had taken up medicine out of their own interest and those who did not, these two groups will be compared in terms of their perception regarding job demands and job control, using a modified tool that will be

further elaborated under “Research Instrument” in this chapter. This will then answer the second and third research question.

The fourth and fifth research questions will be answered by a pre- and post-test, with a short film depicting the reality of working lives as doctors in Malaysia; constructed based on real life experiences of 10 different doctors who worked as house officers in different government hospitals all over Malaysia. Using the tool for job demands and job control, the whole group (i.e. no longer divided into two like previously) will be answering the questionnaire once before the short film is screened and once right after the short film is screened. The results will answer the fourth and fifth research questions.

To answer the sixth research question, the participants will provide answers to the open-ended questions “What is the first word that comes to mind when you hear the word ‘doctor’?” in which the answers will be coded into either positive, negative or neutral, and “When you think about working as a doctor, how do you feel?” in which the answers will be coded into either positive, negative or mixed.

3.3 Sampling Design

3.3.1 Target Population

The sampling is done via purposive sampling because the aim of this research is to assess a very specific group which is clinical year medical students regarding their perception of working as doctors in Malaysia. The study also uses convenience sampling where the location of the study is limited to medical faculties within the Klang Valley due to lack of manpower. This subset however can be used as a representative of the entire population of medical students in Malaysia. Therefore, letters were sent out via e-mail to medical faculties situated within the Klang Valley and the participation is on a voluntary basis.

3.3.2 Sample Size

Out of six medical faculties, three medical faculties from local universities agreed to participate in this study. One of them is Universiti Malaya (UM), a public university with an established medical curriculum of over 50 years. Given the history, Universiti Malaya serves as a perfect candidate to study the local medical curriculum in public universities. A batch from the final year was assigned to the research and a total of 115 participants were involved.

Two other private universities also agreed to participate in the research; Universiti Tunku Abdul Rahman (UTAR) and Cyberjaya University

College of Medical Sciences (CUCMS). Both medical faculties are relatively new compared to Universiti Malaya with not more than 10 years into the medical education arena and at the point of this research have yet to produce their first batch of graduates. Again, both these samples serve as good candidates to compare the medical curriculum between public and private universities. Universiti Tunku Abdul Rahman provided fourth year clinical medical students where all 35 students participated in the research and Cyberjaya University College of Medical Sciences also provided their fourth year medical students out of which 65 students participated.

The disparity between participants from the public university and private universities (combined) were only 15 participants. The total sample size was 215, which gives only a margin of error of less than 10% (Niles, 2006) for the quantitative component of the study.

3.3.3 Sample Demographics

The table below depicts the basic demographic data obtained from the sample which includes gender, range of age and year in medical school.

Table 3.1

Demographic characteristics of participants in this research (N = 215)

Characteristic	***n***	***%***
Gender		
Male	80	37.2
Female	135	62.8
Range of age		
20-25	211	98.1
26-30	4	1.9
Year in medical school		
Year 4	115	53.5
Year 5	100	46.5

*Note: The total sample size is 215. There were no missing data for demographics data.

3.4 Research Instrument

The two main research instruments used in this study are the questionnaire and the short film.

3.4.1 The Questionnaire

The questionnaire constructed contains three parts. The first part is basic demographic data (age, gender, year in medical school and reason of taking up medicine). The second part has two open ended questions which are "What is the first word that comes to mind at the word doctor?" and "When you think about becoming a doctor, how do you feel?"

The third part is regarding job demands and job control. For this part, the tool used is the Health and Safety Executive (HSE) Management Standards Indicator tool. The reason why this tool was chosen, besides its open access, is because it specifically has the subscales of demands and control. Altogether, this tool has seven subscales: demands, control, managerial support, peer support, relationships, role and change (Edwards, Webster, Van Laar, & Easton, 2008). The other five subscales which are managerial support, peer support, relationships, role and change are not relevant to this study and therefore only demands and control were extracted from the original scale to be used in this study. The reason why only the demand and control subscales are taken to be

placed in this study's questionnaire is because they are the most relevant. This tool allows the use of only certain subscales to target specific stressors although it will not measure stress at the workplace as a whole (McGreal, 2015).

Since this study does not intend to measure stress at the workplace and only focus on the perception of clinical year medical students regarding the job demands and control of their impending medical profession, the subscales of this tool fits entirely for the quantitative component of this study. The Cronbach's alpha reliability for the subscales demand and control respectively are 0.89 and and 0.78 (Cousins et al, 2004).Another study also showed that internal consistency was high for both subscales of job demands (eight items) and job control (six items), with the Cronbach's alpha value of 0.86 and 0.80 respectively (Houdmont, Randall, Kerr, & Addley, 2013). Furthermore, the tool subscales showed significant correlations in the expected direction of what it intended to measure, which is stress-related outcomes (Toderi et al, 2013). A more recent study confirmed the specific sensitivity of the subscales in terms of self-perception of stress at work (Marcatto, Colautti, Larese Filon, Luis, & Ferrante, 2014) which fits the objectives of this study.

A pilot study was done on a sample of 35 clinical year medical students to study the reliability of using only these two subscales of job demands and job control. The Cronbach's alpha reliability was studied separately

and together; separately, the values for job demands and job control respectively are 0.77 and 0.72. Although not as high as reported previously, the values are still considered good and reliable to proceed with the research. Furthermore, the Cronbach's alpha reliability for both subscales collectively is 0.82 which is even more acceptable.

Items under Job Demands(labelled as Dm1 until Dm8) and items under Job Control (labelled as Cn1 until Cn6) are depicted in the table below:

Table 3.2

Items under Job Demands and Job Control

Dm1	Different groups at work demand things from me that are hard to combine
Dm2	I have unachievable deadlines
Dm3	I have to work very intensively
Dm4	I have to neglect some tasks because I have too much to do
Dm5	I am unable to take sufficient breaks
Dm6	I am pressured to work long hours
Dm7	I have to work very fast
Dm8	I have unrealistic time pressures
Cn1	I can decide when to take a break
Cn2	I have a say in my own work speed
Cn3	I have a choice in deciding how I do my work

Table 3.2 continued

Cn4	I have a choice in deciding what I do at work
Cn5	I have some say over the way I work
Cn6	My working time can be flexible

These items will be answered on a 5-point Likert scale that consists of 1 – Strongly disagree, 2 – Disagree, 3 – Unsure, 4 – Agree and 5 – Strongly agree.

3.4.2 The Short Film

After answering the questionnaire, students will be invited to view a 19-minute short film entitled *Budak Baru*regarding professional working lives as doctors in Malaysia. The short film will feature the reality of the current working environment and how it has affected the livelihood of these young doctors.

This short film was done after consulting medical officers who offered their experiences as house officers in Malaysian government hospitals. Ten medical officers were chosen based on which government hospital they served as house officer, so that they would all come from different locations all around Malaysia. This is to provide a more well-rounded result because different hospitals would house different staff and different

facilities involved in training house officers. Furthermore, the system of training house officers in Malaysia has yet to be standardized. At the point of time during this field study, the decision of whether a house officer should or should not pass a particular posting is at the sole discretion of the specialists involved - some would be tested via VIVA examination and their performance during the posting, some only based on their performance during the posting while some might even have simple written exams.

Ten medical officers confirmed their participation in this study. Anonymity was assured but they were made aware that they will be quoted for some of their answers. They had served their housemanship period at these government hospitals, respectively:

- Hospital Kuala Lumpur (Wilayah Persekutuan)
- Hospital Universiti Kebangsaan Malaysia, Cheras (Selangor)
- Hospital Serdang (Selangor)
- Hospital Tuanku Jaafar, Seremban (Negeri Sembilan)
- Hospital Melaka (Melaka)
- Hospital Teluk Intan (Perak)
- Hospital Pulau Pinang (Pulau Pinang)
- Hospital Sultanah Nur Zahirah, Kuala Terengganu (Terengganu)
- Hospital Umum Kuching (Sarawak)
- Hospital Queen Elizabeth, Kota Kinabalu (Sabah)

After consulting the medical officers who agreed to participate in this study voluntarily, the short film was made under a grant supplied by Filem Nasional (FINAS). Once completed, the medical officers involved were invited to the pre-screening of the short film. After the screening, the medical officers were required to answer the objective question "How close do you think this short film is to the actual reality?" They were requested to answer this question based on this 5-point Likert scale:

1- Not at all close to reality
2- Minimal resemblance to reality
3- Only about 50% close to reality
4- More than 50% close to reality
5- Almost 100% close to reality

Eight (8) out of 10 doctors answered 5 (almost 100% close to reality) while 2 out of 10 answered 4 (more than 50% close to reality) which concluded that this short film can be used as an audio-visual presentation to depict a piece of reality of working life as a doctor in Malaysia and to be used as an instrument in this study.

3.5 Pilot study

The main purpose of this pilot study is to assess the feasibility of the main study in terms of reliability and the smoothness of the flow for the two-hour session since it involves the setup of an audio-visual component to the study.

Convenience sampling was done and invitation was issued to the clinical year medical students of the Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman to participate in this pilot study. Thirty-five (35) clinical year medical students volunteered and were present at the allocated time and place. After the session, they were asked to give their feedback on three main areas: the questionnaire, the short film and the session as a whole.

There were several positive comments from the pilot study sample. For one, the introductory page of the questionnaire was stated to be self-explanatory, clear and inviting. The questions were also said to be clear; they were neither offensive nor too probing. The main tool used in the third part of the questionnaire which consists of the job demands and job control subscales from the Health and Safety Executive Management Standards Indicator Tool were clear and not redundant.

Most importantly, the pilot study sample generally commented that the short film was very interesting and it provided them a piece of reality about their future working lives as doctors. However, they suggested for clear English subtitles to be featured along with the short film for better understanding and also to cater for international students (if any). This is also to assure clarity of what the characters are saying, just in case the audio equipment is not functioning at its optimum level.

English subtitles were then added to proceed with the main study. Since there were no complaints regarding the questionnaire, the same questionnaire was used for the main study. As for the time provided, all of the participants in the pilot study agreed that it was more than adequate.

3.6 Data Collection

This study uses primary data collection where questionnaires are administered firsthand to a chosen sample. However, before this stage takes place, the questionnaires were first constructed, tested via pilot study and run by the group selected for the field study; which will all be elaborated further in this chapter.

3.6.1 Procedure of Primary Data Collection

Primary data was collected from questionnaires distributed in person by the researcher during a designated session, granted by the faculties that agreed to participate in this study. To begin with, letters were written to the administration offices of six medical faculties around the Klang Valley. The research area is limited to the Klang Valley due to logistics limitation but has covered both public and private universities. The six medical faculties were chosen as part of convenience sampling as well as purposive sampling. Out of the six medical faculties, three faculties replied and agreed to be a part of the research.

From there, a meeting was arranged with the representative from the administration office of the medical faculty involved to explain the objectives of this research and whether or not any of them are against the faculty's policies and ethical laws. When this has been cleared, a two-hour session is arranged with a batch of clinical year medical students. The researcher arrives at this session to explain about the research and how participation is voluntary and anonymous. The questionnaires are distributed and students are given half an hour to 45 minutes to answer the first, second and first half of the third part of the questionnaire.

Then, the short film is screened to the students. The short film is mainly in Bahasa Malaysia but has English subtitles. The screening has been

conducted with clear audio visual and lasts 19 minutes. After the screening, the students are required to answer the second half of the third part of the questionnaire. This is actually just the replica of the first half of the third part (to be answered before the screening) and this serves to document the difference in answers before and after the presentation of the short film.

After the students have completed the entire questionnaire, they were asked to leave their completed questionnaires at the researcher's table. Students were also told that if they are interested in the outcome of this research, they can leave their full names, email addresses and contact numbers with the researcher. Clinical year medical students involved in the research have also stayed back after the stipulated research session for informal chats regarding their experience and the medical curriculum they were currently in.

3.6.2 Secondary Data

Secondary data was attained via books, journals, articles (both from websites and local newspapers), relevant blogs as well as interviews with medical officers working in government hospitals and clinics.

Books regarding the medical profession and medical curriculum, although specialized and not abundant in number, provided valuable insights to the medical field all over the world apart from the researcher's

own experience. Although books are written mainly from the Western countries, Asian doctors have also begun to pick up the art of jotting down and compiling their knowledge and experience in the form of reflective stories and personal accounts; several examples include Indonesia with the title *The Ordinary Me: Kok Masih Ada Yang Mau Jadi Dokter*by Dr. Yose Waluyo published in 2011 and Malaysia with the title *Diagnosis* by Dr. Anwar Fazal, Dr. Aizzat and Dr. Azah published in 2013.

The Medical Education Journal has proved to be the most relevant reference for this research since it covers not only the medical education but also what goes on beyond it. Blogs have also been taken into account but counter-validated with facts obtained from Ministry of Health and Ministry of Education Malaysia. As mentioned earlier, the advancement of technology and social media has also affected the medical field and therefore practicing doctors have begun to share their opinions on blogs. But all information shared on blogs must be verified since the identity of these authors can be obscured from the readers.

3.7 Ethical Consideration

The researcher had obtained consent from the medical faculties that responded and agreed to allow this study to take place among a chosen set of clinical year medical students. During the discussion with the

representative of the administration office of each of the medical faculties that participated, the study was explained at length to assure that none of the aspects of the study would go against the faculty's ethical laws or policies.

At the start of the session, the students are briefed by the researcher regarding the intent of this study and it was clearly stated that it would be a voluntary process; therefore, only those who were interested stayed for the session and the questionnaires were distributed accordingly.All participants had given their informed consent. They were also allowed to remain anonymous therefore confidentiality of participants was maintained.

Guidelines from both the Ministry of Education and Ministry of Health were also scrutinized to assure this study does not go against any of the policies and ethical laws concerning these two ministries. This study also ensures that it will not cause harm to the any of the participants or any institutions they were or will be a part of, be it physically, mentally, emotionally or financially.

CHAPTER FOUR

RESULTS

4.1 Introduction

This section will display the results of this study in answering the research questions stated in Chapter Three. All results were generated from SPSS 22 computation analysis software.

4.2 Answering RQ1: Did clinical year medical students take up medicine out of their own interest?

This was asked in the questionnaire with two questions: one close-ended followed by an open-ended question. The connected questions read "Did you take up medicine out of your own interest?" which is followed by "If no, who influenced, encouraged or motivated you to take up medicine?"

To answer RQ1, the answers are divided into Yes ("I took up medicine out of my own interest") and No ("I did not take up medicine out of my own interest"). The results are translated into "Own interest" and "Other than own interest". "Other than own interest" seem to fall under three main categories: family influence, media influence (eg. films, TV dramas) and role models (eg. Tun Dr. Mahathir Mohamad, family

pediatrician). The two mainreasons and the broken down reasons are depicted clearer in the table below:

Table 4.1

Breakdown for reasons of taking up medicine among clinical year medical students who participated in this research (N = 215)

Reasons for taking up medicine	***n***	**%**
Own interest	67	31.2
Other than own interest		
Family influence	123	57.2
Media influence	17	7.9
Role models	8	3.7

*Note: The total sample size is 215. There were no missing data for this part of the questionnaire.

4.3 Answering RQ2: Is there a significant difference of perception in job demands between clinical year medical students who took up medicine out of their own interest and those who did not?

An independent t-test was performed to compare the means for eight items under job demands between clinical year medical students who took up medicine out of their own interest and those who did not. The results are shown in the table below:

Table 4.2

Comparison in means using independent t-test between clinical year medical students who took up medicine out of own interest and those who did not for items under job demands (N = 215)

Items under Job Demands	**Out of own interest (*n* = 67)**		**Other than own interest (*n* = 148)**				
	Mean	**SD**	**Mean**	**SD**	**t**	**df**	**sig. (2-tailed)**
Dm1 *Different groups at work demand things from me that are hard to combine*	3.33	0.81	3.34	0.79	0.14	213	0.89
Dm2 *I have unachievable deadlines*	4.31	0.82	4.08	1.02	-1.64	213	0.10
Dm3 *I have to work very intensively*	4.09	0.48	3.95	0.66	-1.51	213	0.13
Dm4 *I have to neglect some tasks because I have too much to do*	3.05	1.09	3.24	0.99	1.27	213	0.21
Dm5 *I am unable to take sufficient breaks*	3.15	1.06	3.34	0.98	1.32	213	0.19
Dm6 *I am pressured to work long hours*	4.03	0.90	3.70	1.06	-2.24	213	0.03*
Dm7 *I have to work very fast*	4.00	0.71	3.96	0.73	-0.30	213	0.76
Dm8 *I have unrealistic time pressures*	2.98	1.15	2.99	0.97	0.15	213	0.89
Overall mean for Dm	3.62		3.58				

*Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). SD = standard deviation.

From here, it can be seen that only item Dm6 has a significant difference between the two groups ($p<0.05$). The overall mean for job demands fall under "Unsure" on the Likert scale for both groups with values 3.62 for those who took up medicine out of their own interest and 3.58 for those who did not take it up out of their own interest.

4.4 Answering RQ3: Is there a significant difference of perception in job control between clinical year medical students who took up medicine out of their own interest and those who did not?

An independent t-test was performed to compare the means for six items under job control between clinical year medical students who took up medicine out of their own interest and those who did not. The results are shown in the table below:

Table 4.3

Comparison in means using independent t-test between clinical year medical students who took up medicine out of own interest and those who did not for items under job control (N = 215)

Items under Job Control	**Out of own interest (*n* = 67)**		**Other than own interest (*n* = 148)**				
	Mean	**SD**	**Mean**	**SD**	**t**	**df**	**sig. (2-tailed)**
Cn1 *I can decide when to take a break*	2.75	0.94	2.86	1.00	0.77	213	0.44
Cn2 *I have a say in my own work speed*	3.18	0.78	3.24	0.95	0.43	213	0.67
Cn3 *I have a choice in deciding how I do my work*	3.19	0.86	3.22	1.01	0.20	213	0.84
Cn4 *I have a choice in deciding what I do at work*	3.66	0.69	3.69	0.75	0.30	213	0.76
Cn5 *I have some say over the way I work*	3.51	0.66	3.46	0.84	-0.41	213	0.68
Cn6 *My working time can be flexible*	2.36	1.03	2.47	1.11	0.72	213	0.47
Overall mean for Cn	3.11		3.16				

*Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). SD = standard deviation.

From here, it can be seen that none of the items hold a value of less than 0.05, therefore it can be concluded that there is no significant difference in job control between the two groups. The overall mean for job control fall under “Unsure” on the Likert scale for both groups with values 3.11 for those who took up medicine out of their own interest and 3.16 for those who did not take it up out of their own interest

4.5 Answering RQ4: Is there a significant difference in clinical year medical students’ perception of their job demands before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia?

Before looking into the specific items under job demands, it is important to look at the overall difference in mean and the significant difference before (pre-test) and after (post-test) the presentation of the short film to the participants of this study. The results are shown in the table below:

Table 4.4

Paired t-test for job demands before (pre-test) and after (post-test)presentation of audio-visual stimulus (N = 215)

	Mean (overall) (*n* = 212)		**t**	**df**	**Sig. (2-tailed)**
	Pre-test	**Post-test**			
Job Demands	3.58	3.69	-3.89	211	0.00**

*Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). $p < 0.05$.

From this, it can be seen that there is a significant difference ($p<0.05$) with the value of 0.00. Therefore, there is a significant difference in clinical year medical students' perception of their job demands before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia.

Looking into the specific items, it is shown in the table below the mean results before and after the presentation of the short film, followed by another table to see whether there is any significant difference in specific items under job demands:

Table 4.5

Comparison of means using paired t-test between pre-test and post-test for items under job demands (N = 215)

Items under Job Demands	**Pre-test (*n* = 215)**		**Post-test (*n* = 212)**				
	Mean	**SD**	**Mean**	**SD**	**t**	**df**	**sig. (2-tailed)**
Dm1 *Different groups at work demand things from me that are hard to combine*	3.34	0.80	3.45	0.79	-2.07	211	.04*
Dm2 *I have unachievable deadlines*	4.15	0.97	4.14	0.88	.08	211	.94
Dm3 *I have to work very intensively*	3.98	0.61	4.05	0.67	-1.39	211	.17
Dm4 *I have to neglect some tasks because I have too much to do*	3.17	1.00	3.19	1.06	-.26	211	.80
Dm5 *I am unable to take sufficient breaks*	3.30	0.98	3.38	1.07	-1.12	211	.26
Dm6 *I am pressured to work long hours*	3.79	1.03	3.95	0.94	-2.60	211	.01*
Dm7 *I have to work very fast*	3.95	0.72	4.07	0.74	-2.42	211	.02*
Dm8 *I have unrealistic time pressures*	2.99	1.03	3.25	1.00	-4.33	211	.00**

*Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). $p < 0.05$.

From the table above, the specific items that show a significant difference ($p<0.05$) are items Dm1, Dm6, Dm7 and Dm8 with values 0.04, 0.01, 0.16 and 0.00 respectively.

4.6 Answering RQ5: Is there a significant difference in clinical year medical students' perception of their job control before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia?

Before looking into the specific items under job control, we shall look at the overall difference in mean and significant difference before (pre-test) and after (post-test) the presentation of the short film to the participants of this study to answer RQ5. The results are shown in the table below:

Table 4.6

Paired t-test for job control before (pre-test) and after (post-test) presentation of audio-visual stimulus (N = 215)

	Mean (overall) (*n* = 212)		**t**	**df**	**Sig. (2-tailed)**
	Pre-test	**Post-test**			
Job Control	3.14	2.96	4.77	211	0.00**

Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). $p < 0.05$.

Like the answer to RQ4, this also shows a significant difference between pre-test and post-test with the value of 0.00. So this can conclude that there is a significant difference in clinical year medical students' perception of their job control before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia.

To depict the difference in specific items under job control, the table below shows the mean results before and after the presentation of the short film, followed by a table to see whether there is any significant change in perception of job control:

Table 4.7

Comparison of means using paired t-test between pre-test and post-test for items under job control(N = 215)

Items under Job Control	**Pre-test (*n* = 215)**		**Post-test (*n* = 212)**				
	Mean	**SD**	**Mean**	**SD**	**t**	**df**	**sig. (2-tailed)**
Cn1 *I can decide when to take a break*	2.83	0.98	2.48	1.04	4.91	211	.00**
Cn2 *I have a say in my own work speed*	3.21	0.90	3.09	0.97	1.81	211	.07
Cn3 *I have a choice in deciding how I do my work*	3.22	0.96	2.93	0.99	4.10	211	.00**
Cn4 *I have a choice in deciding what I do at work*	3.67	0.73	3.60	0.76	1.34	211	.18
Cn5 *I have some say over the way I work*	3.47	0.79	3.38	0.76	1.52	211	.13
Cn6 *My working time can be flexible*	2.45	1.09	2.30	1.01	2.14	211	.03*

*Notes: Values are the mean of reported scores on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). SD = standard deviation.

From the tables above, the specific items that have a significant value of less than 0.05 are items Cn1, Cn3 and Cn6 with values 0.00, 0.00 and 0.03 respectively.

4.7 Answering RQ6: Do clinical year medical students have positive, negative or neutral thoughts about doctors in general and do they have positive, negative or mixed feelings about becoming doctors themselves?

To answer this, two open-ended questions were asked in the questionnaire. The first question was "What is the first word that comes to mind at the word doctor?" and the second question was "When you think about becoming a doctor, how do you feel?"

For the first question, the answers have been divided into three categories – Positive, Neutral and Negative and the answers for the second question have also been divided into three categories – Positive, Mixed and Negative.

The reason why the answers to the first question ("What is the first word that comes to mind at the word doctor?") were divided into these three categories was because there was an emerging theme for these categories. For Positive, the answers included respected, noble, professional, helpful and intelligent whereas for Negative, the answers included busy, tiring, sacrifice, difficult/hard and stressful. Other than these patterns, some

words fall under the Neutral category where answers included either objects or actions, such as stethoscope, injection and blood.

The sum for these categories within the three medical faculties involved in this research as well as the overall total is as follow:

Table 4.8

The sum of categories Positive, Neutral and Negative for the first word that comes to mind at the word "doctor" among clinical year medical students who participated in this research (N = 215)

	Positive word		Neutral word		Negative word	
	n%		*n*	%	*n*	%
UM	64	29.8	30	13.9	21	9.8
UTAR	22	10.2	8	3.7	5	2.3
CUCMS	11	5.1	21	9.8	33	15.3
Total	97	45.1	59	27.4	59	27.4

*Notes: UM = Universiti Malaya. UTAR = Universiti Tunku Abdul Rahman. CUCMS = Cyberjaya University College of Medical Sciences.

For the second question ("When you think about becoming a doctor, how do you feel?") the answers were divided into three categories – Positive, Mixed and Negative. The reason why they were broken down into these categories is because the answers were mainly either positive, negative or both positive and negative feelings. Among the positive words chosen were excited, motivated, happy, proud and good whereas the negative words included scared, nervous, stressed, worried and bad.

The sum for these categories within the three medical faculties involved in this research as well as the overall total is as follow:

Table 4.9

The sum of categories Positive, Mixed and Negative for feelings of becoming a doctor among clinical year medical students who participated in this research (N = 215)

	Positive feeling		Mixed feelings		Negative feeling	
	n%		*n*	%	*n*	%
UM	24	11.2	26	12.1	65	30.2
UTAR	167.4		9	4.2	10	4.7
CUCMS	136.1		19	8.8	33	15.3
Total	53	24.7	54	25.1	108	50.2

*Notes: UM = Universiti Malaya. UTAR = Universiti Tunku Abdul Rahman. CUCMS = Cyberjaya University College of Medical Sciences.

These findings will be further discussed in Chapter Five.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This section will extensively discuss the major findings in Chapter Four. The purpose of this discussion is to provide more insight to Malaysian clinical year medical students' perception, since it is a relatively new subject that has been ventured by this research.

5.2 Discussion of Major Findings

This research is focused on assessing clinical year medical students' perception of their working lives as doctors in Malaysia; particularly when it comes to job demands and job control. This is due to speculations and assumptions made by specialists in the medical field that medical graduates step into their role of house officers not fully aware of how demanding and tasking their job scope really is. This presumably stems from their reasons of becoming a doctor; assumed to be mainly influenced by family members instead of taking up the course out of their own interest.

5.2.1 A majority of clinical year medical students do not take up medicine out of their own interest

This is the root of the study, where most of the research questions are linked to this. According to the results presented in Chapter Four, more than half of the respondents had answered under the category of "Other than own interest" (68.8%) while the rest falls under the category of "Own interest" (31.2%).

From the open-ended question, family influence includes parents, siblings, uncles, aunties and cousins. Others include media influence and role models such as lecturers and family paediatricians. One particular student had written "It was the trend."

It might not be an entirely surprising finding that a majority of these students had taken up medicine out of family influence, since it is consistent with previous literature regarding family influence on high-school leavers' career choice, particularly among Asian families (Ghosh, 2014).This is consistent with the findings in an earlier article stating that South Asian parents, specifically, tend to influence their children to choose either medicine, law or teaching as their career (Gill, 2011). These choices are often viewed as stable careers and parents are keen on these choices to ensure that their children will always have a job with a fixed income.

A more recent article confirms this by interviewing doctors already in the profession and asking them what made them and those around them choose a career in medicine (Rimmer, 2014). In the article, Dr. Rajasingam who works closely with medical students observed firsthand that doctors whowere particularly from medical families chose the career due to parental or familial pressure rather than wanting to do it themselves. More interestingly, she also shared her opinion that students from South East Asia, especially girls who do well academically in science, tend to be pushed or encouraged to do medicine because it is viewed as the highest level of career pathway to be chosen. Another participant, Cath McDermot who was the head of education at the British Medical Journal at the time, also shared her experience in school where bright students in the arts were veered towards being a lawyer and successful students in the science were suggested to do medicine. Here, we can see that primary and secondary education also plays a big role in determining a student's career choice because they will decide which course to take up in college. Parents, in turn, might also be influenced by the school's system therefore further encourage a career pathway that is being suggested by the school.

5.2.2 There is no significant difference of perception in job demands between clinical year medical students who took up medicine out of their own interest and those who did not

The eight items under job demands were explored among the clinical year medical students to compare between those who took up medicine out of their own interest and those who did not. The only item that showed significant difference between the two groups is Dm6 – "I am pressured to work long hours". For this item, the mean for those who took up medicine out of their own interest falls under Agree on the Likert scale with the score of 4.03 whereas for those who did not take it up out of their own interest, the mean falls under Unsure on the Likert scale with the score of 3.70.

Although there was no significant difference overall, this particular item show that the students who took up medicine out of their own interest are more aware of this aspect in their impending working lives as doctors in Malaysia; which is a vital part of being a doctor. According to previous literature done locally, being pressured to work long hours is essentially one of the main stressors among house officers (Rampal, 2013) and this persists even until they become medical officers (Omar, Muda, & Wan Mohd. Amin, 2009). Even with the Flexi Hour Shift System being implemented since September 2011, not all hospitals are practicing them since the final jurisdiction of whether or not to implement this depends on the head of departments in different hospitals (Sivakumar, 2015). This

issue was also raised in letters being sent and published in local newspapers for the past five years as well as blogs written by anonymous house officers.

It can be assumed that medical students who did not take up medicine might not be interested to know about the current situation of working doctors in Malaysia and only rely on general perception; given that they are too focused on passing their exams in the current moment in order to graduate rather than research about what their working lives will be like. Of course, there will always be students that are more resourceful, regardless of what made them choose to take up medicine in the first place.

5.2.3 There is no significant difference of perception in job control between clinical year medical students who took up medicine out of their own interest and those who did not

For items under job control, none of the specific items show any significant difference between the two groups. But looking closely at the mean for each item to gauge the perception of job control overall, items Cn1 ("I can decide when to take a break") and Cn6 ("My working time can be flexible") both fall under Disagree on the Likert scale (all less than 3.00), which show that there is a universal understanding among them that these are aspects they will not achieve in their working lives as

doctors in Malaysia. The rest of the items fall under Unsure (between 3.00 and 4.00) on the Likert scale.

Doctors work longer hours than any other profession, therefore job control in these aspects are presumed to be non-existent as it is understood that the clientele in a doctor's job do not adhere to normal working hours. Medical students are therefore well aware of what they have to face as doctors since they have witnessed beforehand what their lectures and mentors have to go through (Scheinbaum, 2012). The results obtained in this section prove this situation even further.

5.2.4 There is a significant difference in clinical year medical students' perception of their job demands before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia

The short film which is 19 minutes in length is a close imitation to the reality of a doctor's working life in Malaysia, as assured by the group of medical officers involved in the field study of this research. The purpose of this short film is to see whether there is a significant difference in perception of job demands and job control before and after its presentation to the participants involved; clinical year medical students (no longer divided into two groups as done earlier).

The overall mean for all the items under job demands show a very significant difference with the value of 0.00. Looking into each item, four out of eight items show significant difference which are Dm1 – Different groups at work demand things from me that are hard to combine, Dm6 – I am pressured to work long works, Dm7 – I have to work very fast, and Dm8 – I have unrealistic time pressures.

For items Dm1 and Dm6, although the mean for pre-test and post-test (*M*= 3.24 to *M* = 3.45 and *M* = 3.79 to*M* = 3.95, respectively) both still fall under Unsure on the Likert scale, they both veer more towards Agree post-test. Whereas for item Dm7, the initial mean for pre-test which was under Unsure on the Likert scale with the score of 3.95 has clearly shifted to Agree with the score of 4.07. For item Dm8, the mean that was initially Disagree on the Likert scale with the score of 2.99 during the pre-test has shifted to Unsure with the score of 3.25 after watching the short film.

Therefore, total shifts can be seen for "I have to work very fast" and "I have unrealistic time pressures". Although clinical year medical students have already been exposed to the working environment in government hospitals, there might still not be a close shadowing between them and the house officers since they are unable to observe the work speed that is

required in doing specific tasks. From their answers for this research question, the subsequent step that can be taken is to look into their physician shadowing progress during the clinical phase. Although log books are present for them to fill in after each posting, these log books focus on their technical abilities such as clerking patients and performing procedures. They do not even perform self-assessment of their psychological preparedness. This is not done even after they graduate, where preparedness is only measures in terms of skills and knowledge (Ochsmann, Zier, Drexter, & Schnid, 2011).

5.2.5There is a significant difference in clinical year medical students' perception of their job control before and after the presentation of audio-visual stimulus regarding the reality of their working lives as doctors in Malaysia

For the overall mean in pre-test and post-test of items under job control, significant difference of 0.00 is also observed. Three out of six items show significant difference between pre-test and post-test and they are items Cn1 – I can decide when to take a break (from M = 2.83 to$M$ = 2.48), Cn3 – I have a choice in deciding how I do my work (from M = 3.22 to$M$ = 2.93), and Cn6 – My working time can be flexible (from M = 2.45 to$M$ = 2.30). The most significant here is item Cn3 where the score shifted from Unsure to Disagree which is a strong statement for Job Control. For items Cn1 and Cn6, although the mean already fall under Disagree on the Likert scale, it shifts nearer towards Strongly Disagree

after watching the short film. Item Cn3 transcends categories from Unsure to Disagree on the Likert scale.

This shows that, overall, the respondents feel they no longer have sufficient job control after being presented with the short film which depicts the current situation as illustrated in articles worldwide. As house officers, as much as they want to focus their entire attention of their patients, they are also obligated to follow orders from their superiors; this is most apparent in item Cn3 ("I have a choice in deciding how I do my work").

5.2.6 Clinical year medical students have positive thoughts of doctors in general but have negative feelings about becoming doctors themselves

We examined the respondents' thoughts about doctors in general. A total percentage of 45.1% thought positively of doctors in general, while 27.4% thought negatively. This is consistent with a study on medical students' perception of good quality doctors which included desirable qualities such as good people skills and high level of intelligence (Hurwitz, Kelly, Ponis, Smyth, & Lewin, 2015). It is interesting to note that the negative thoughts focus mainly on job demands since the top answers for this category are "busy", "tiring" and "sacrifice".

When it comes to job demands, it is not surprising that these negative thoughts dominate the participants' response regarding their future profession as doctors. The public opinion of doctors would also shape their perspective. A retired paediatrician shared her views on how the public opinion has changed over the years; what started out as mutual trust and respect from her patients have now turned into demanding nothing but the best service from the doctors (Kozel, 2011). The advancement of technology has also placed its own unique challenge on the profession of doctors whereby patients refer to the internet and compare their knowledge to what the doctors tell them, sometimes challenging the doctor's views on their medical conditions (Hartzband & Groopman, 2010). That being said, the public still expects doctors to treat their patients with the utmost care and to treat the humans carrying the disease rather than the disease within the humans (Picard, 2015). Therefore when words like "busy", "tiring" and "sacrifice" emerged as the top responses for thoughts of doctors in general, they are in keeping with the literature.

Some respondents in this study who spared some time for a chat confided that they were not aware that it will take really long to become a specialist and that they have to compete for limited places in order to even get a chance to further their studies. Another respondent admitted that even though she was aware of the hours that had to be put in for a

successful career, she wished that someone had told her before she got into the course itself; now it's too late to back down.

When it comes to feelings of becoming doctors themselves, the results shift more towards the negative, accounting for 50.2% of the respondents with only 24.7% feeling positively about it. However, feelings in the Negative category consist of scared, nervous and stressed but mainly due to clinical competency (for example, "Scared I can't do a good job" and "Nervous about handling people's lives"). Only one student in particular had answered "Unhappy because I don't want to work that hard" which is regarding job demand.

This shows that although a majority of clinical year medical students feel negatively about becoming doctors themselves, it is in regards to their feelings of inadequacy in terms of skills and knowledge and not about the high demand-low control situation they will face in their job. A doctor who has left practice recount her experience of constant anxiety despite adequate medical training; like there was always a chance of doing something wrong which can end up being fatal (Shannon, 2013).

This feeling of inadequacy comes from dealing with real life patients with possibly threatening illnesses which is a fluid matter. No matter how

efficiently medical graduates equip themselves with knowledge and skills, diseases evolve and patients vary. They not only have to constantly feed themselves with the latest information but adapt excellent soft skills to deal with different personalities and emotions. Hence why burnout happens most frequently among healthcare workers with the prevalence approaching 25% (Mateen & Dorji, 2009).

Follow up was done on some students from the Cyberjaya University College of Medical Sciences sample who, during the course of writing up this dissertation, had already started their housemanship period. While some seem to be coping under stress, one student had contacted the researcher personally to inform that she had quit the practice. She was willing to be interviewed further for the purpose of this study as long as she remained anonymous.

This 26-year old ex-house officer shared her experience that led up to her decision of quitting from the Ministry of Health (MOH) Malaysia as a house officer (the name of the hospital has been obscured at the respondent's request):

> My first posting was Internal Medicine. I knew what I was getting myself into since everyone had said that the posting was one of the busiest in any government hospital. I didn't mind the workload. I knew it was

> necessary for me to stay at the hospital after hours because of the high load of patients and the many procedures that had to be performed to ensure quality care for the patients. But when I entered my second posting which was Orthopaedics, my stress level was terribly increased despite the fact that there were much lesser patients to handle. Despite my constant effort to fulfil tasks and perform my job well, the tiniest managerial mistake would result in my day off being revoked (day offs were given at the sole discretion of my superiors) or my hours at the hospital extended or even threatened to have my entire posting extended.

From the excerpt above, it is apparent that the area in which the main stressors for this house officer were due to lack of job control (cannot decide when to take a break, does not have a say in how she does her work and working time not flexible).

Observations by one of the students drew attention to the sole control given to superiors, and this had caused a high level of stress:

> It came to a point when I was so stressed and anxious that I develop panic attacks whenever I get a call from the hospital on a day off or when I'm sleeping at night. I

would get palpitations, tremors and would be worried sick about committing an error – not by my patients but by my superiors. I was easily reduced to tears and would find myself in a foul mood even when I'm supposed to be resting. I was emotionally drained and mentally exhausted.

Going to the hospital every day with the thought that you might do something wrong that would spark another round of humiliation upon yourself; being told over and over again that you're not doing a good enough job just by doing one trivial mistake and not at all being acknowledged for something you've done right – all of this took a toll on me.

In the end, I opted for my own peace of mind. It might sound selfish but I felt that it was not worth sacrificing my mental, emotional and even physical health for just a job.

When asked whether she was keeping in touch with her colleagues who also sat for the questionnaire of this study and whether or not she knew of any of them had experienced the same fate as hers, she provided the answer below:

> Yes. I've known four other classmates from my medical course who have quit just like I have. They were all from different hospitals as house officers.

This revelation brings into attention a shocking yet important thing to note for this study: five out of 65 participants (a percentage of 7.7%) of the sample taken from Cyberjaya University College of Medical Sciences had actually quit practicing as doctors. Although this percentage may not be entirely representative of the entire house officer population in Malaysia, it provides an insight on the reality of the situation – house officers are quitting once they experience working lives as doctors in Malaysia despite having spent five to seven years in medical school.

This is also congruent with the data stated by the director-general of Malaysia's Ministry of Health that one out of five house officers in Malaysia quit the practice (Amzan, 2015). The article calls for a more vigilant action to be taken; particularly in research and reinventing our medical curriculum which is what this research partly aims to do.

5.3 Themes that emerged from the interview with medical officers

As mentioned earlier in Chapter Three, part of the research design is the short film that required interviews with medical officers to be constructed

as close to reality as possible. Ten medical officers who had worked as house officers from all over Malaysia had participated voluntarily in this study to share their opinion regarding the job demands and job control as a house officer working in government hospitals in Malaysia. Anonymity is maintained and only the location where they served their housemanship is stated.

After the interview, open coding was done to extract distinct concepts and categories in the data. From the interviews, several themes emerged when describing their profession as doctors in terms of how challenging their work is. The main themes seen were “unable to take sufficient breaks” and “pressure from superiors”.

5.3.1 Unable to take sufficient breaks

Under the theme of "unable to take sufficient breaks" it was either elaborated by stating there was not enough time for meals and inadequate sleep. Below are excerpts from the interviews:

"It was very busy. I didn't even have time for a proper lunch. I normally would just eat on the go and even that, sometimes, was not possible (female medical officer, Hospital Melaka)."

A male medical officer in Hospital Teluk Intan had this to say:

> The hospital I worked at as a house officer was not as big as other government hospitals in bigger cities, but it still demanded a lot out of the doctors working there. There was still no time for a proper meal; adequate sleep was a utopian dream. It was definitely not a profession for those who valued their free time."

5.3.2 Pressure from superiors

Under the theme of "pressure from superiors" words like "bullying", "hard on me" and "asked me to quit" or "made me feel like quitting" emerged. Below are excerpts from the interviews:

"There was even a point of time when I felt like quitting during a particular posting due to constant bullying by my superiors (female medical officer in Hospital Kuala Lumpur)."

"My superiors kept saying the work is hard and it requires resilience and perseverance. Those who do not possess it should quit (female medical officer in Hospital Universiti Kebangsaan Malaysia)."

"Back when I was serving as a house officer, my superiors were hard on me. But looking back, I feel that it was necessary for me to become a competent doctor (male medical officer in Hospital Seremban)."

From the themes that emerged, we can conclude that the medical profession is indeed a demanding career particularly in terms of job control and work relationships (in this study, only the former is explored along with job demands). Medical students should be made aware of how their working lives will be like in order to better prepare them mentally and emotionally.

In a recent article in The Wall Street Journal, doctors have been reported to feel frustrated with the way things are run and how they are merely following bureaucratic orders rather than making a difference in people's lives; which was the very reason why they took up the profession in the first place (Jauhar, 2014). Aside from the demanding working hours, the profession has become more machine-like, bogged down by procedures and paperwork which is ironically the total opposite of the people-oriented profession it is supposed to be.

5.4 Summary of Chapter Five

This chapter had provided in-depth discussion including interviews which provided different angles to the issue being researched in this study. It has also highlighted what this research has managed to achieve in terms of answering the proposed research questions as well as gain more insight into the matter. The next chapter shall discuss the implications, limitations and recommendations for future research.

CHAPTER SIX

CONCLUSION

6.1 Introduction

This chapter will discuss the implications and limitations of this study, as well as recommendations for future research. This chapter also concludes the entire research.

6.2 Implications

Reason of taking up medicine among clinical year medical students has been the key to this research. Significant differences have also been found between students who took up medicine out of family influence and own interest regarding job demands when it comes to working as doctors in Malaysia. For both job demands and job control, there is a significant difference among all the respondents before and after the presentation of audio-visual stimulus that shows a piece of reality when working as doctors in Malaysia.

6.2.1 Reason of Taking up Medicine and Its Effects

The medical officers interviewed during this study, when asked regarding the impact of reasons of taking up medicine, were divided into two schools of thoughts. Some said that whether or not a student chooses medicine out of their own will is secondary; it is the understanding, effort and commitment during the course that will carry the medical graduates through in the working lives as doctors. The other group, however, argued that although all these are important, taking the course up without the knowledge and awareness of what they are getting themselves into can cause them to crumble under pressure while working.

To say that these clinical students were not aware of their future challenges as doctors would be inaccurate, since they had stated countless times throughout this questionnaire that they knew their lives will be busy. But “knowing” and “willing” are two totally different things.

“Physician shadowing” is already a common practice (Becker, 2008). This is when students who have finished high school and in the midst of making a decision to take up medicine as a career will apply to follow a working physician during a stipulated time to give them exposure about what the work will encompass. Here in Malaysia, however, only students who have been offered a scholarship in medicine can undergo this

physician shadowing program. By this time, the student has already been offered a scholarship – the chances of them backing out after the physician shadowing period would be slim, even if they want to.

This is perhaps where our system can be rectified. More often than not, students who take up medicine chose the course because they did well in the sciences back in high school. Although this is an important prerequisite, this should not be the only driving force a student to take up medicine. Exposure is very much important as this career requires them to devote their lives to it – again, they need to not only know what they're getting themselves into, but be willing to be subjected to all the hardship.

While the Malaysian system mainly focuses on rewards (high prestige, good salary etc.) other countries have long started to brief their prospective doctors rather frankly on what they were up against. *The Association of American Medical Colleges*, for example, had an article entitled "How Do I Decide if a Career in Medicine is Right for Me" where it was stated that it will take 11-16 years to complete an education in medicine (i.e. to become a specialist) and doctors work for more than 60 hours a week, excluding emergency calls .

Therefore, aside from a more comprehensive and stringent interview process for applicants to medical schools, perhaps it is time to think about programs for high-school leavers conducted by those already involved in the field to better equip them with the right knowledge regarding their careers. This study had used an audio-visual medium which was proven effective and can be considered as part of the program.

Even as this research draws to an end, the researcher has participated in a three-day House Officer Preparatory Course voluntarily conducted by medical officers and specialists for medical graduates who are interested to join. The feedback has been positive and the researcher has been invited for future courses which will be beneficial for the medical graduates.

6.2.2 Psychological Preparation in Medical Schools

According to the General Adaptation Syndrome, the body can only endure a certain amount of stress before it hits the exhaustion point (Selye, 1936). If, at this point, the body continues to receive stress, the body will not be able to cope. Since the medical profession is a highly stressful job to begin with, the exhaustion mark might be reached sooner compared to someone in a less stressful profession. This being the situation, other unnecessary stressors should be avoided in fear that it would quicken the arrival of the exhaustion point.

If this logic is applied to the medical personnel, who are already faced with stressful aspects of their job such as handling life-or-death matters, they should be supported even more by their colleagues and superiors to ensure efficiency. Sadly, this is not the case.

Superiors who feel that house officers need to toughen up will constantly provide stressors. Although they are not expected to mollycoddle the house officers till they are unable to be independent and eventually become dangerous medical officers, unnecessary bullying is also uncalled for. To achieve a balance is of course challenging; after all, not everyone is fit to be a mentor.

So perhaps, medical students should be more equipped in handling different personalities; not only among their patients but among those who they work with as well. It has been said that the medical profession is a people-oriented career; maybe it is time for the medical students to realize that this does not only refer to the doctor-patient relationship, but the doctor-surrounding relationship as well. House officers work with a number of healthcare personnel; nurses, medical assistants, paramedics, medical officers, specialists and many more. They need to know how to handle these people as much as how to handle patients.

All our local medical faculties have a component of behavioural science or soft skills; but little attention is given to these subjects. In contrast, medical faculties in other countries have incorporated Medical Humanities or Arts in Medicine as part of their curriculum – for example, the medical school of Trinity College, Dublin that celebrated their 300th anniversary in 2011 has included Medical Humanities in a large portion of their medical curriculum and the initiative is gaining momentum. Besides Ireland, medical faculties in France have also paid special attention to this psychological aspect of medicine.

Rather than just including it as a compulsory subject in the course, this aspect is constantly grinded throughout the course, making it a necessary component rather than an additional one.

Therefore, this study also hopes to initiate a change in the local medical curriculum to improve the quality of medical graduates – to increase their stress threshold, not by introducing more stress or hard-selling the tough working experience, but to create a better understanding of self, surrounding and the profession as a whole so that they develop better coping mechanisms.

At the point of concluding this research, the researcher is already engaged with a Medical Humanities Committee in the Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman in developing its very first workshop open to medical students in the faculty.

6.3 Limitations

As much as the medical faculties were willing to be a part of this research when approached by the researcher, they had to consider the students' schedule and availability. Due to the researcher's own limitations of manpower and time constraints, more medical faculties could not be involved in this research thus limiting the coverage to represent a larger sample. The sampling of this research is purposive and convenient; it covers only medical faculties in the Klang Valley due to logistics limitations and although it targets clinical year medical students, not all clinical year medical students can participate to the constraints in their schedules. The sample is chosen by the administrative office based on the inclusion criteria (which is "medical students in their clinical phase").

Medical faculties also vary from one another in terms of curriculum. Since one of the goals of this research is to improve the medical curriculum, the medical faculties that participated in this research cannot

be used to illustrate the Malaysian medical curriculum in general; particularly if a medical humanities program is to be introduced since these faculties may already have a functioning component of medical humanities. For example, Cyberjaya University College of Medical Sciences have engaged relations with Mercy Malaysia which incorporates an element of medical humanities that the students not only undergo, but appreciate as well. Universiti Tunku Rahman includes the subject of *Sun Tzu: Art of War* in the first year of their medical curriculum as a part of their medical humanities program. Universiti Malaya, taking a more traditional approach, infuses medical humanities within the subject of ethics.

Going back to the application of the questionnaire itself, this study requires a group of medical students to answer a questionnaire within a given period of time, therefore highly dependent on their willingness and sincerity to do so. Although it was purely of voluntary basis, the medical students may feel obligated to join the session due to numerous reasons; peer pressure and faculty's insistence being among them. But the researcher had tried to make this study relevant to them and therefore draw their interest in this matter particularly by inserting the short film component.

As for the use of the short film and its validity, the researcher has tried to solidify such a fluid component by subjecting it to a field study consisting of 10 doctors who have gone through housemanship period and still actively practicing as doctors in Malaysia. The feedback, however, is still highly dependent on each of the doctors' own experience which can vary from one end of the spectrum to another. But the group of the doctors are taken fresh from housemanship done all over Malaysia and hopefully able to cover a wider selection.

6.4 Recommendations

Upon completing this dissertation, the short film used for this research entitled *Budak Baru*has already gained the attention of those in the medical profession nationwide. The short film (broadcasted nationwide via TV9 Malaysia and now posted on YouTube) received encouraging comments on how close to reality it actually is, while some insisted that the reality is even worse than what was depicted. It must be stressed that the aim of the short film is only to show a glimpse of reality to medical students about to embark on their journey as working doctors in Malaysia. Furthermore, the whole purpose of the short film is to spark more valuable discussions regarding the current working state of doctors in Malaysia, bringing to attention the possible improvements that can be made by those who are able to make a change; be it house officers, specialists, lecturers or policymakers.

Two main points are to be taken into consideration after this research. One is to insert a consistent medical humanities component in the medical curriculum which might prove beneficial to produce quality medical graduates who are well-equipped mentally and emotionally to face a highly demanding job. As mentioned before, medical faculties vary in terms of how they execute medical humanities in their curriculum. If a sturdy program can be developed and applied to medical faculties across the board in Malaysia, adjusted to our societal and cultural preferences, the medical faculties can first focus on creating better and more understanding human beings first before producing quality medical graduates.

Another area that can be improved is the current working condition for doctors in Malaysia. Although there has been debates on how medical graduates nowadays are not well-prepared for gruelling hours ahead (Pagalavan, 2011) and might not be resilient enough to live the profession (Cardosa, 2012) better working environment, this research proves that their answers for Job Demands and Job Control show that they are aware of what they are getting themselves into.

What is lacking here may not be awareness, but rather the shock of being thrown into an inhospitable environment, despite working in

hospitals.Most participants in this study, when sharing their opinions after the formal session, said that they were not dreading the long working hours; they were more worried of working with difficult superiors. As mentioned earlier on, there needs to be a balance between effort and rewards; rewards here may mean a kind, encouraging word when credit is due. This will create less unnecessary stress that can contribute to the well-being of healthcare practitioners. Therefore, perhaps rather than just engaging the younger generation of the medical field, the more experienced generation in the field may also benefit from a refresher course when it comes to medical humanities.

Besides that, pre-housemanship preparatory courses done voluntarily by medical officers and specialists are also an increasing, positive trend. The short film in this research has been used (with permission) by several of these courses as an introduction to what these young doctors may face and how they should cope. Hopefully, this movement will spark more initiatives to better prepare our medical graduates to become competent house officers. At the point of completing this dissertation, the researcher's efforts and those concerned shall continue.

Therefore, from this elaboration, we can see that further initiatives can be taken at three different levels. During the undergraduate medical student level, a medical humanities component can be inserted consistently

throughout the course. Once done with the course, another session dedicated to psychological preparation should be done as the medical graduates are about to enter housemanship. Then, most importantly, during the course of medical practice, a refresher course on medical humanities involving house officers, medical officers, specialists, consultants and even other health personnel like nurses and medical assistants should be introduced in order to make everyone work better as a team.

We need to bear in mind that medical graduates will become house officers who are the frontliners in our healthcare system; improving the quality of their work will most definitely benefit us. A positive outlook and a polished attitude, paired with adequate skills and knowledge, will give them the drive to pursue a career in medicine to become respectable specialists who will, in turn, train their house officers well. The cycle continues; hopefully in a better light.

6.5 Conclusion

Overall, this study had assessed the clinical year medical students' perceptions towards their working lives as doctors in Malaysia, particularly regarding job demands and job control. There is a significant difference in these aspects between students who took up medicine out of family influence and those who took it up of own interest, whereby the

students who were motivated by their own interest had a better grasp of the reality of their working lives. However, when introduced to the short film which depicts the job demands and job control of working as doctors in Malaysia, there was a significant difference among all the respondents before and after the presentation of the short film. This shows that there has not been enough psychological preparation among clinical year medical students despite the exposure they have received during the clinical phase of their medical course. This in turn should prompt more research regarding this matter as well as the consideration of inserting a stronger psychological component in the medical curriculum to better prepare medical graduates for their working lives as doctors in Malaysia.

LIST OF REFERENCES

Abadel, F.T., Hattab, A.S. (2013). How does the medical graduates' self-assessment of their clinical competency differ from experts'-assessments. *BioMed Central Medical Education*, 13: 24.

Abbas, S.G., Farah, A., Apkinar-Sposito, C. (2013). Measuring the immeasurable: an overview of stress & strain measuring instruments. *Mediterranean Journal of Social Sciences*, *4*(10): 480-489.

Abdul Ghani, H.M., AlKanhal, A.A., Mahmoud, E.S., Ponnamperuma, G.G., Alfaris, E.A. (2011). Stress and its effects on medical students: A cross-sectional study at a college of medicine in Saudi Arabia. *Journal of Health, Population and Nutrition*,*29*(5): 516-522.

Abdullah, N.H. (December 10, 2014). *Response to the article "Trauma faced by some housemen in hospitals' by 'Disgusted Malaysian, Kuala Lumpur'" dated 8th December 2014*. Retrieved from http://kpkesihatan.com/2014/12/10/response-to-the-article-trauma-faced-by-some-housemen-in-hospitals-by-disgusted-malaysian-kuala-lumpur-dated-8th-december-2014/.

Al-Dubai, S.A.R., Ganasegeran, K., Perianayagam, W., Rampal, K.G. (2013). Emotional burnout, perceived sources of job stress, professional fulfillment, and engagement among medical residents in Malaysia, *The Scientific World Journal*, *2013*(2013): Article ID 137620, 9 pages. http://doi.org/10.1155/2013/137620

Amzan, K. (February 11, 2014). Are you sure you want to be a doctor? *Malaysian Medical Gazette*. Retrieved from http://www.mmgazette.com/are-you-sure-you-want-to-be-a-doctor-dr-kamal-amzan/.

Amzan, K. (February 27, 2014). First day of hospital life. *Malaysian Medical Gazette*. Retrieved from http://www.mmgazette.com/first-day-of-hospital-life-dr-kamal-amzan/.

Andreou, E., Alexopoulos, E.C., Lionis, C., Varvogli, L., Gnardellis, C., Chrousos, G.P., Darviri, C. (2011). Perceived Stress Scale: Reliability and validity study in Greece. *International Journal of Environmental Research and Public Health*,*8*(8):3287-3298.

Association of American Medical Colleges. How do I decide if a career in medicine is right for me. Retrieved from https://students-residents.aamc.org/choosing-medical-career/medical-careers/aspiring-docs/.

Ausman, J., Javed, A., Ahmed, S., Samad, M.A., Pour, A.S., Mathew, E., Shaikh, R.B., Al-Sharbatti, S., Sreedharan, J. (2013). Social factors influencing career choice in a medical school in the United Arab Emirates, *Education in Medicine Journal*,*5*(1):1-5.

Bakker, A. B., Ten Brummelhuis, L. L., Prins, J. T., Van Der Heijden, F. M. M. A. (2011). Applying the job demands-resources model to the work-home interface: a study among medical residents and their partners. *Journal of Vocational Behavior*,*79*(1): 170-180.

Bakker, A. B., Van Veldhoven, M., Xanthopoulou, D. (2010). Beyond the demand-control model: thriving on high job demands and resources. *Journal of Personnel Psychology*, *9*(1): 3-16.

Becker, C. Pre-med preparation: The importance of physician shadowing. Retrieved from http://www.studentdoctor.net/2008/03/pre-med-preparation-the-importance-of-physician-shadowing/.

Blasco, P. G., Moreto, G., Roncoletta, A. F. T., Levites, M. R., Janaudis, M. A. (2006). Using movie clips to foster learners' reflection: Improving education in the affective domain. *Family Medicine*,*38*(2), 94-96.

Bleakley, A. (2015). *Medical Humanities and Medical Education: How the Medical Humanities Can Shape Better Doctors*. New York, NY: Routledge.

Braniff, C., Spence, R. A., Stevenson, M., Boohan, M., Watson, P. (2015). Assistantship improves medical students' perception of their preparedness for starting work. *Medical Teacher*,*38* (1): 51-58.

Brown, A. D. (2010). Social media: a new frontier in reflective practice. *Medical Education*, *44* (8): 744–745.

Bullock, A. (2014). Does technology help doctors to access, use and share knowledge, *Medical Education, 48* (1): 28–33.

Burford, B., Whittle, V., Vance, G.H.S. (2014). The relationship between medical student learning opportunities and preparedness for practice: a questionnaire study. *BMC Medical Education*,*14*,223. http://doi.org/10.1186/1472-6920-14-223

Cardosa, M. (May 3, 2012). Job demands long hours. *The Star*. Retrieved from http://www.thestar.com.my/news/story.asp?file=/2012/5/3/focus/11222501.

Charlton, B.G. (1991). Reshaping the preclinical medical education: a modest proposal. *Biochemical Education*, *19*(1): 192-193.

Chen, P.W. (October 7, 2007). Medical student distress and the risk of doctor suicide. *The New York Times*. Retrieved from http://www.nytimes.com/2010/10/07/health/views/07chen.html?_r=0.

Chou, L.P., Li, C.Y., & Hu, S.C. (2014). Job stress and burnout in hospital employees: comparisons of different medical professions in a regional hospital in Taiwan. *British Medical Journal*, *4*(2).http://doi.org/10.1136/bmjopen-2013-004185

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceivedstress, *Journal of Health and Social Behavior*, *24*(4): 385-396.

D'Cruz, F. (April 25, 2012). Cry-baby doctors – the painful reality.*TheMalay Mail*. Retrieved from

http://www.mmail.com.my/story/cry-baby-doctors-%E2%80%94-painful-reality.

Dahlin, M.E., Runeson, B. (2007). Burnout and psychiatric morbidity among medical students entering clinical training, a three year prospective and interview-based study. *BioMed Central Medical Education*,*7*(6).http://doi.org/10.1186/1472-6920-7-6

Degen, C., Weigl, M., Glaser, J., Li, J., Angerer, P. (2014). The impact of training and working conditions on junior doctors' intention to leave clinical practice. *BioMed Central Medical Education*, 14: 119.http://doi.org/10.1186/1472-6920-14-119

De Leng, B., Dolmans, D., Van de Wiel, M., Muijtjens, A. and Van Der Vleuten, C. (2007). How video cases should be used as authentic stimuli in problem-based medical education. *Medical Education*, 41: 181–188.

Deonarain, N. (2013) Three Questions Doctors Should Ask Themselves in 2014. Retrieved from http://www.kevinmd.com/blog/2013/12/3-questions-doctors-2014.html.

Dimitrov, D.M., Rumrill, P.D. (2003). *Pre-test-post-test designs and measurements of change*. Kent, OH: IOS Press.

Dyrbye, L.N., Thomas, M.R., Massie, F.S., Power, D.V., Eacker, A., Harper, W., Durning, S., Moutier, C., Szydlo, D.W., Novotny, P.J., Sloan, J.A., Shanafelt, T.D. (2008). Burnout and suicidal ideation among U.S. medical students. *Annals of Internal Medicine*,*149*(5). 334-341. http://doi.org/10.7326/0003-4819-149-5-200809020-00008

Dyrbye, L.N., Thomas, M.R., Massie, F.S., Power, D.V., Eacker, A., Harper, W., Durning, S., Moutier, C., Szydlo, D.W., Novotny, P.J., Sloan, J.A., Shanafelt, T.D. (2010). Burnout and serious thoughts of dropping out of medical school: A multi-institutional study. *Academic Medicine*,*85* (1):94-102.http://doi.org/ 10.1097/ACM.0b013e3181c46aad

Entaban, N. M. (April 19, 2012). Facing challenges. *The Star R.AGE*. Retrieved from http://rage.com.my/facing-challenges/.

Evans, D. E., Wood, D. F., Roberts, C. M. (2004). The effect of an extended hospital induction on perceived confidence and assessed clinical skills of newly qualified pre-registration house officers. *Medical Education*, *38*(9), 998-1001.http://doi.org/10.1111/j.1365-2929.2004.01908.x

Geraint, M. (1991). Junior doctors' responsibilities. *British Medical Journal*,*302*(6778): 730.

Gibbins, J., McCoubrie, R., Forbes, K. (2011). Why are newly qualified doctors unprepared to care for patients at the end of life? *Medical Education*,*45*(4): 389-399. http://doi.org/10.1111/j.1365-2923.2010.03873.x

Gill, J. (November 23, 2011). Career choice – whose decision? *South Asian Generation Next.* Retrieved from http://www.sagennext.com/2011/11/23/career-choice%E2%80%94whose-decision/.

Goldacre, M.J., Lambert, T., Turner, G. (2003). Preregistration house officers' views on whether their experience at medical school prepared them well for their jobs: National questionnaire survey. *British Medical Journal*, *326*(7397), 1011-1012.

Godefrooij, M.B., Diemers, A.D., Scherpbier, A.J.J.A.(2010). Students' perceptions about the transition to the clinical phase of a medical curriculum with preclinical patient contacts; a focus group study. *BioMed Central Medical Education*, *10* (28). http://doi.org/10.1186/1472-6920-10-28

Guner, G., Sakizli, M., Erdamar, I., Onvural, B., Ceryan, K. (2010), Preclinical medical training using the integrated system in Dokuz Eylul University Medical School.*Biomedical Education*, *23*(1): 21-24. http://doi.org/10.1016/0307-4412(94)00118-9

Han, W. H., Maxwell, S. R. J. (2006). Are medical students adequately trained to prescribe at the point of graduation? Views of first year foundation doctors. *Scottish Medical Journal*,*51*(4): 427-432.

Hartzband, P., Groopman, J. (2010). Untangling the web – patients, doctors, and the internet. *The New England Journal of Medicine*, *2010* (362): 1063-1066. http://doi.org/10.1056/NEJMp0911938

Hassan, M., Hussain. T., Ahmed, S.M., Fraz, T.R., Rehmat, Z. (2014). Perceived stress and stressors among house officers.*Indian Journal of Occupational and Environmental Medicine*, *18*(3): 145-149. http://doi.org/10.4103/0019-5278.146914

Hassan, S. (2013). Concepts of vertical and horizontal integration as an approach to integrated curriculum.*Education in Medicine Journal*, *5*(4). http://doi.org/10.5959/eimj.v5i4.163

Hecker, K. (2009). Medicalschool curricula: Do curricularapproaches affect competence in medicine? *Family Medicine: Medical Student Education*, *41*(6): 420-426.

Houdmont, J., Randall R., Kerr, R., Addley, K. (2013). Psychosocial risk assessment in organizations: Concurrent validity of the brief version of the Management Standards Indicator Tool. *Taylor & Francis Online*, *27*(4): 403-412.

Hurwitz, S., Kelly, B., Ponis, D., Smyth, R., Lewin, T., (2013). The desirable qualities of future doctors--a study of medical student perceptions. *Medical Teacher*,*35* (7): 1332-1339.

Jauhar, S. (August 29, 2014). Why doctors are sick of their profession, *The Wall Street Journal*. Retrieved from http://www.wsj.com/articles/the-u-s-s-ailing-medical-system-a-doctors-perspective-1409325361.

Johnson, S. (September 29, 2015). Junior doctors' strike receives overwhelming support, poll shows. *The Guardian (UK)*. Retrieved from http://www.theguardian.com/healthcare-network/2015/sep/29/junior-doctors-strike-support-poll-contract-nhs.

Johnston, C., Chan, M. (2012). Making film vignettes to teach medical ethics. *Medical Education*, *46* (11): 1133–1134. http://doi.org/10.1111/medu.12027

Karam, F., Berard, A., Sheehy, O., Huneau, M.C., Briggs, C., Chambers, C., Einarson, A., Johnson, D., Kao, K., Koren, G., Martin, B., Polifka, J.E., Riordan, S.H., Roth, M., Lavigne. S.V., Wolfe, L. (2012). Reliability and validity of the 4-item Perceived Stress Scale among pregnant women: Results from the OTIS antidepressants study.*Research in Nursing and Health*,*35*(4): 363-375.

Kazmi, R., Amjad S., Khan D. (2008). Occupational Stress and Its Effect on Job Performance: A Case Study of Medical House Officers of District Abbottabad. *Journal of Ayub Medical College*, *20*(3).

Kozel, M. (October 11, 2011). How the public view doctors, and the image I wish they saw. *Physicians Practice*. Retrieved from http://www.physicianspractice.com/worklife-balance/how-public-views-doctors-and-image-i-wish-they-saw.

Krishnamoorthy, M. (November 30, 2008). At least five doctors to suffer from mental woes every month. *The Star*. Retrieved from http://www.thestar.com.my/story/?file=%2F2008%2F11%2F30%2Fnation%2F2684863&sec=nation.

Kumagal, A. K. (2008). A conceptual framework for the use of illness narratives in medical education.*Academic Medicine*, *83*(7), 653-658.

Lai, N. M., Nalliah, S., Jutti, R. C., Hla, Y. Y., Lim, V. K. E. (2009). The educational environment and self-perceived clinical competence of senior medical students in a Malaysian Medical School.*Education for Health*. *22* (2): 148.

Lave, J., & Wenger, E. (1991). Situated learning: legitimate peripheral participation: Cambridge University Press.

Lempp, H., Seabrook, M., Cochrane, M., Rees, J. (2005). The transition from medical student to doctor: perceptions of final year students and preregistration house officers related to expected learning outcomes. *The International Journal of Clinical Practice*, *59*(3): 324-329.

Letchumanan, P. (2010). *For Future Doctors*. Retrieved from http://pagalavan.com/for-future-doctors/.

Letchumanan, P. (2011). *The Standards of Medical Education in Malaysia and Its Acceptability by David Quek.* Retrieved from http://pagalavan.com/2011/11/17/for-future-doctors-the-standards-of-medical-education-in-malaysia-and-its-acceptability-by-david-quek/.

Lewis, P.J., Ashcroft, D.M., Dornan, T., Taylor, D., Wass, V., Tully, M.P. (2014). Exploring the causes of junior doctors' prescribing mistakes: a qualitative study.*British Journal of Clinical Pharmacology*, *8*(2): 310-319.

Li, J., Weigl, M., Glaser, J., Petru, R., Siegrist, J., Angerer, P. (2013). Changes in psychosocial work environment and depressive symptoms: a prospective study in junior physicians. *American Journal of Industrial Medicine*,*56*(12): 1412-1422.

Loh, F.F. (June 9, 2014). Limited training slots available for medical grads. *The Star*. Retrieved from *http://www.thestar.com.my/news/nation/2014/06/09/limited-training-slots-available-for-medical-grads-selection-process-may-be-imposed-due-to-high-nu/.*

Lumlertgul, N., Kijpaisalratana, N., Pityaratstian, N., Wangsaturaka, D. (2009). Cinemeducation: A pilot student project using movies to help students learn medical professionalism.*Medical Teacher*, *31* (7): 327-332.

Malaysian Medical Council. Training future doctors: have we got it right? Consensus Report of Malaysian Medical Council Meeting

held on November 29, 2008. Retrieved from http://mmc.gov.my/v1/docs/DG's%20speech%20at%20Future%20Doctors.pdf.

Mandal, A., Ghosh, A., Sengupta, G., Bera, T., Das, N., Mukherjee, S. (2012). Factors affecting the performance of undergraduate medical students: A perspective.*Indian Journal of Community Medicine*, *37*(2):126-129.

Marcatto, F., Colautti, L., Larese Filon, F., Luis, O., Ferrante, D. (2014). The HSE Management Standards Indicator Tool: concurrent and construct validity. *Occupational Medicine*, *64*(5): 365-371.

Mateen, F.J., Dorji, C. (2009). Health-care worker burnout and the mental health imperative. *Lancet*, *374*(9690): 595-597.

McDougall, R., Sokol, D. K. (2008). The ethical junior: A typology of ethical problems faced by house officers. *Journal of the Royal Society of Medicine*, *101* (2), 67-70. http://doi.org/10.1258/jrsm.2007.070412

Midgley, C. (2014, June 2). The drop-out club for doctors: Why medics are leaving the NHS. *The Times*. Retrieved from http://www.thetimes.co.uk/tto/life/article4104854.ece.

Ministry of Health Malaysia. Kerjaya pegawai perubatan. Retrieved from http://www.moh.gov.my/index.php/pages/view/61.

MomMD: Connecting Women in Medicine. Becoming adoctor: atough decision. Retrieved from http://www.mommd.com/toughdecision.shtml.

Nakao, M. (2010). Work-related stress and psychosomatic medicine. *Biopsychosocial Medicine*, 4:4. http://doi.org/10.1186/1751-0759-4-4

National Health Services UK. Points to consider when deciding to study medicine. Retrieved from https://www.healthcareers.nhs.uk/i-am/considering-or-university/studying-medicine.

Neumann, M., Edelhauser, F., Tauschel, D., Fischer, M.R., Wirtz, M., Woopen, C., Haramati, A., Scheffer, C. (2011). Empathy decline and its reasons: A systematic review of studies with medical students and residents.*Academic Medicine*, *86*(8): 996-1009.

Newbury-Birch, D., Kamali, F. (2001). Psychological stress, anxiety, depression, job satisfaction, and personality characteristics in preregistration house officers. *Postgraduate Medical Journal*, 77, 109-111. http://doi.org/10.1136/pmj.77.904.109

Newman, F. (2012). *Stress on the job*. Retrieved from https://www.psychologytoday.com/blog/fighting-fear/201210/stress-the-job.

News Straits Times Malaysia (March 30, 2015). 1 in 5 trainee quit in Malaysia, some become waiters instead. Retrieved from http://www.straitstimes.com/asia/se-asia/1-in-5-trainee-doctors-quit-in-malaysia-some-become-waiters-instead.

Niles, R. *Survey sample sizes and margin of error*. Retrieved from http://www.robertniles.com/stats/margin.shtml.

Ochsmann, E. B., Zier, U., Drexler, H., Schmid, K. (2011). Well prepared for work? Junior doctors' self-assessment after medical education. *BioMed Central Medical Education*, 11: 99.

Omar, N. K., Muda, M. S., Wan Mohd. Amin, W. A. A. (2009). Analysis of satisfaction amongst the government medical officer and its relation to the behavioral factors. *The Journal of Global Business Management*, *5*(1), 132-140.

Pai, P.G., Menezes, V., Srikanth., Subramaniam, A.M., Shenoy, J.P. (2014). Medical students' perception of their educational environment.*Journal of Clinical and Diagnostic Research*, *8*(1):103-107.

Palos. P., Drobot. L. (2009). The impact of family influence on the career choice of adolescents.*Procedia Social and Behavioral Sciences 2*, 2010:3407–3411.

Panelo, N.D. (2010). The model minority student: Asian American students and the relationships between acculturation to Western values, family pressures, and mental health concerns.*The Vermont Connection*, *31*:145-155.

Pasek, J. (2012). Writing the Empirical Social Science Paper: A Guide for the Perplexed: University of Michigan.

Picard, A. (June 8, 2015). A challenge for new doctors: focus on the patient not just the symptoms, *The Globe and Mail*. Retrieved from http://www.theglobeandmail.com/life/health-and-fitness/health/a-challenge-for-new-doctors-focus-on-the-patient-not-just-the-symptoms/article24859080/.

Poon, D. (2015). Parental Influence on Asian Americans' Educational and Vocational Outcomes, Department of Applied Psychology, NYU Steinhardt.

Prakash, G. (April 12, 2012) Doctor found dead in hospital ward. *TheMalay Mail*. Retrieved from www.themalaymailonline.com.

Presseau, J., Johnston, M., Johnston, D. W., Elovainio, M., Hrisos, S., Steen, N., Stamp, E., Francis, J. J., Grimshaw, J. M., Hawthorne, G., Hunter, M., Eccles, M. P. (2013). Environmental and individual correlates of distress: testing Karasek's demand-control model in 99 primary care clinical environments. *British Journal of Health Psychology*,*19*(2): 292-310.

Prince, K.J., Van De Wiel, M. W., Van Der Vleuten, C.P., Boshuizen, H.P., Scherpbier, A.J. (2005). Junior doctors' opinions about the transition from medical school to clinical practice: a change of environment. *Education for Health*, *17*(3): 323-331.

Prince, K.J., Boshuizen, H.P., Van Der Vleuten, C.P., Scherpbier, A.J. (2005). Students' opinions about their preparation for clinical practice.*Medical Education*, *39*(7): 704-712.

Pruthi, S., Pandey, R., Singh S., Aggarwal, A., Ramavat, A., Goel A. (2013). Why does an undergraduate student choose medicine as a career.*National Medical Journal India*, *26*(3):147-149.

Rampal, K.G. (October 29, 2013). Stress among doctors in Malaysia, *Collegium Ramazzini Days Seminar 2013*. Retrieved from http://www.collegiumramazzini.org/download/Rampal13.pdf.

Rimmer, A. (December 15, 2014). "My mum made me do it" – doctors and their medical dynasties. *British Medical Journal Careers*. Retrieved from http://careers.bmj.com/careers/advice/view-article.html?id=20020422.

Ross, S., Ryan, C., Duncan, E. M., Francis, J. J., Johnston, M., Ker, J. S., Lee, A. J., MacLeod, M. J., Maxwell, S., McKay, G., McLay, J., Webb, D. J., Bond, C. (2012). Perceived causes of prescribing errors by junior doctors in hospital inpatients: a study from the PROTECT programme. *British Medical Journal: Quality and Safety*,*22*(2): 97-102.

Rosta, J., Nylenna, M., Aasland, O. G. (2009). Job satisfaction among hospital doctors in Norway and Germany: A comparative study on national samples. *Scandinavian Journal of Public Health*, *37* (5): 503-508.

Saab, B. R., Usta, J., Major, S., Musharrafieh, U., Ashkar, K. (2005). Communication skills in a Lebanese medical school: From movie theaters to medical classrooms. *Family Medicine*, *37*(2): 90-92.

Scheinbaum, C. (August 22, 2012). The many dangers posed by burned-out doctors, *Bloomberg*. Retrieved from http://www.bloomberg.com/bw/articles/2012-08-22/the-many-dangers-of-burned-out-doctors.

Schwenk, T.L., Davis, L., Wimsatt, L.A. (2010). Depression, stigma, and suicidal ideation in medical students. *The Journal of the American Medical Association*,*304* (11): 1181-1190

Selvadurai, T.K. (2012). Review of the Houseman's Flexi Hour Shift System. *Berita Malaysian Medical Association*,*42*(7): 14-16

Shadowfax, (2013). *Dealing with psychological stress of being a doctor*. Retrieved from http://www.kevinmd.com/blog/2013/01/dealing-psychological-stress-doctor.html.

Shah, N., Aly, S.M. (2015). Teaching of medical humanities in medical universities of Pakistan. *Journal of Pakistan Medical Association*, *65* (4): 414-417

Shankar, N., Singh, S., Gautam, S., Dhaliwal, U. (2013). Motivation and preparedness of first semester medical students for a career in medicine.*Indian Journal of Physiology and Pharmacology*, *57*(4):432-438.

Shannon, D. (October 18, 2013). Why I left medicine: A burnt-out doctor's decision to quit. *Wbur's Common Health: Reform and Reality*. Retrieved from http://commonhealth.wbur.org/2013/10/why-i-left-medicine-a-burnt-out-doctors-decision-to-quit.

Sheehan, D., Wilkinson, T. J., Bowie, E. (2012). Becoming a practitioner: workplace learning during the junior doctor's first year. *Medical Teacher*,*34*(11): 936-945.

Sifferlin, A. (July, 2014). Burnout in the hospital: why doctors are set up for stress. *TIME magazine*. Retrieved from http://time.com/3004782/burnout-in-the-hospital-why-doctors-are-set-up-for-stress/.

Tan, S.M., Jong, S.C., Chan, L.F., Jamaludin, N.A., Phang, C.K., Jamaludin N.S., Shah, S.A. (2013). Physician, heal thyself: the paradox of anxiety amongst house officers and work in a teaching hospital.*Asia Pacific Psychiatry*, *5*(1):74-81.

Taylor-Powell, E., Renner, M. (2003). Analayzing Qualitative Data, *Program Development & Evaluation booklet*, University of Wisconsin.

Teunissen, P. W., Westerman, M. (2011). Opportunity or threat: the ambiguity of the consequences of transitions in medical education.*Medical Education*,*45*(1): 51-59.

Toderi, S., Balducci, C., Edwards, J.A., Sarchielli, G., Broccoli, M., Mancini, G. (2013). Psychometric properties of the UK and Italian versions of the HSE stress indicator tool: A crosscultural investigation. *European Journal of Psychological Assessment*, *29* (1): 72-79.

Tucker, P., Bejerot, E., Kecklund, G., Aronsson, G., Akerstedt, T. (2015). The impact of work time control on physicians' sleep and well-being. *Applied Ergonomics*, 47: 109-116.

Tyssen, R., Vaglum, P., Gronvold, N. T., Ekeberg, O. (2000). The impact of job stress and working conditions on mental health problems among junior house officers: A nationwide Norwegian prospective cohort study. *Medical Education*, *34*(5), 374-384.

Weigl, M., Hornung, S., Petru, R., Glaser, J., Angerer, P. (2012). Depressive symptoms in junior doctors: a follow-up study on work-related determinants. *International Archives of Occupational and Environmental Health*,*85*(5): 559-570.

Weinberg, I., Purshouse, K., Khan, M., Welsh, S., Murphy, H., Conlon, J., Bolton, C., Jones, M., Richards, O. (2013). What do junior doctors do all day. *Student British Medical Journal*. Retrieved from http://www.medscape.com/viewarticle/808795_8.

West, C.P., Dyrbye, L.N., Rabatin, J.T., Call, T.G., Davidson, J.H., Multari, A., Romanski, S.A., Hellyer, J.M.H., Sloan, J.A., Shanafelt, T.D. (2014). Intervention to Promote Physician Well-being, Job Satisfaction, and Professionalism: A Randomized Clinical Trial.*The Journal of American Medical Association: Internal Medicine*, *174*(4):527-533.

Wood, D.F., (2003). Problem based learning.*British Medical Journal*, 2203: 326-328. http://doi.org/10.1136/bmj.326.7384.328

Yusoff M. S. B., Abdul Rahim A.F., Yaacob M.J. (2010). Prevalence and sources of stress among Universiti Sains Malaysia medical students. *The Malaysian Journal of Medical Sciences*,*17* (1): 30-37.

Yusoff, M. S. B., Jaa'far, R., Arzuman, H., Arifin, W. N., Mat Pa, M. N. (2013). Perceptions of medical students regarding educational climate at different phases of medical training in a Malaysian medical school.*Education in Medicine Journal*,*5*(3). http://doi.org/10.5959/eimj.v5i3.146

Yusoff, M.S.B., Tan, Y.J., Esa, A.R. (2011). Stress, stressors and coping strategies among house officers in a Malaysian hospital. *ASEAN Journal of Psychiatry*, 12(1).

APPENDIX A

QUESTIONNAIRE

Personal information

1. Gender:

2. Age:

3. Current year in medicine: 4th / 5th

4. Did you take up medicine out of your own interest?

_____

_____

_____

5. If you did not take up medicine out of your own interest, who influenced, motivated or encouraged you to take up medicine?

_____

_____

_____

_____

6. What is the first word that comes to mind when you hear the word “doctor”?

_____

_____

7. When you think about working as a doctor, how do you feel?

_____

_____

APPENDIX B

(To be answered before watching the short film, then again on a separate form after watching the short film)

Circle your answers to the following statements according to this:

1 = Strongly Disagree 2 = Disagree 3 = Unsure

4 = Agree 5 = Strongly Agree

Dm1	Different groups at work demand things from me that are hard to combine	1	2	3	4	5
Dm2	I have unachievable deadlines	1	2	3	4	5
Dm3	I have to work very intensively	1	2	3	4	5
Dm4	I have to neglect some tasks because I have too much to do	1	2	3	4	5
Dm5	I am unable to take sufficient breaks	1	2	3	4	5
Dm6	I am pressured to work long hours	1	2	3	4	5

Dm7	I have to work very fast	1	2	3	4	5
Dm8	I have unrealistic time pressures	1	2	3	4	5
Cn1	I can decide when to take a break	1	2	3	4	5
Cn2	I have a say in my own work speed	1	2	3	4	5
Cn3	I have a choice in deciding how I do my work	1	2	3	4	5
Cn4	I have a choice in deciding what I do at work	1	2	3	4	5
Cn5	I have some say over the way I work	1	2	3	4	5
Cn6	My working time can be flexible	1	2	3	4	5

APPENDIX C

Short film – Budak Baru.