



**UNIVERSITI PUTRA MALAYSIA**

***FACTORS INFLUENCING PERCEPTIONS OF LEARNING  
ENVIRONMENT AMONG UNDERGRADUATE MEDICAL STUDENTS AT  
A PUBLIC UNIVERSITY IN MALAYSIA***

**ILMI NADHARAH BINTI KATIMAN**

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By

**ILMI NADHRAH BINTI KATIMAN**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfilment of the Requirements for the Degree of Master of Science**

**September 2020**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

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**Chairman : Rafidah Binti Hod, PhD**  
**Faculty : Medicine and Health Sciences**

The medical education fraternity has widely acknowledged the importance of the learning environment in student learning. Previous studies have demonstrated the importance of the learning environment and its effect on the learning outcome, students' motivation, educational program effectiveness, and academic achievements. This study aimed to assess learning environment perception (LEP) and factors influencing LEP among undergraduate medical students in Universiti Putra Malaysia (UPM). A cross-sectional method and universal sampling were used in this study. Data collection was done from June to October 2018. From years one to five, medical students enrolled in the Bachelor of Medicine and Health Science (MBBS) program at the Universiti Putra Malaysia were recruited to participate in a questionnaire-based assessment. It contains to measure LEP, students' demographic background, learning approach, quality of life, psychological distress level, resilience, and current affect.

Students from the first and second years were grouped according to the respective classes, while students from the third, fourth, and fifth years were grouped according to the clinical teaching classes. They were briefed regarding the purpose of the study and reminded that participation is voluntary. On average, the respondents took 20 minutes to complete the questionnaire. Dundee Ready Educational Environment Measure (DREEM) was used, and descriptive statistics were applied. The inventory quantified the students' overall LEP and divided the scores into five domains. The mean scores of each domain and the item building up the domain were calculated and ranked accordingly, and the overall score was summed up from all the items. By looking at the item ranks, the faculty were able to identify areas of strength and the problematic regions that need to be rectified. A Chi-square test was used to determine any association between LEP and other factors; learning approach, quality of life, psychological distress, resilience, and current affect. Significant associations were noted and applied in logistic regression to understand predictors that may influence higher LEP.

A total of 440 out of 528 students responded in this study, yielding a response rate of 83.3%. Students rated their learning environment perception as positive, with a score of 136.06/200. Areas that are considered positive from the students' perspective are the teachers who are knowledgeable and have a good rapport with patients, good friends, and motivated to participate in the course. This study also identified problematic areas, including overemphasising factual learning, teachers being authoritarian, cheating in the class, and abundant materials that need memorizing. The study also determined a significant relationship between deep and strategic approaches, presence of depression and anxiety, all aspects of quality of life (physical, psychological, social, and environmental), high affective and self-destructive trait when these factors were compared with LEP. Binary logistic regression analysis revealed factors that may result in higher learning environment perceptions, including having moderate to high social quality of life, adopting a strategic approach, not having depression, and having high affective traits. From these results, it may help the faculty in deciding which problem areas to focus on by accepting the negative feedbacks (factual learning, authoritarian teachers, cheating act, and abundant materials) from the students' perspective, and recognizing efforts made by many (teachers, friends and inner motivating self). Furthermore, as predictors influencing learning environment had been identified, it may guide future directions of faculty to improve the LEP, and highlight to the faculty administration on the importance of students' social quality of life, promoting students to adapt strategic approach, making sure the students are not depressed and understand students with a high-affective trait.

Keywords: Learning Environment Perception, medical students, medical education

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**FAKTOR-FAKTOR YANG MEMPENGARUHI PERSEPSI TENTANG PERSEKITARAN PEMBELAJARAN DI KALANGAN PELAJAR IJAZAH SARJANA MUDA PERUBATAN DI UNIVERITI AWAM MALAYSIA**

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Persekitaran pembelajaran merupakan nilai yang utama dalam pembangunan pelajaran, yang telah disepakati oleh pendidik perubatan. Persekitaran pembelajaran meliputi fasiliti fizikal, lokasi dan hospital tempat latihan dijalankan, kapasiti dan kelayakan staf akademik serta bentuk dan modul kurikulum. Kajian terdahulu mendapati kepentingan persekitaran pembelajaran dan kesannya terhadap hasil pendidikan, motivasi pelajar, keberkesanan program pendidikan dan kelebihan akademik. Kini, kefahaman mengenai persepsi terhadap persekitaran pembelajaran memberikan pandangan mendalam dalam memahami kekuatan dan kelemahan kurikulum, seterusnya memperbaiki dan menimbang tara perubahan yang sedang diadaptasi. Kajian ini bertujuan mengenal pasti persekitaran pembelajaran dan faktor-faktor yang mempengaruhi persekitaran pembelajaran di kalangan pelajar ijazah perubatan di Universiti Putra Malaysia. Cara kajian secara keratan rentas digunakan dalam kajian ini.

Pelajar perubatan dari tahun satu hingga lima yang sedang mengikuti pengajian ijazah Sarjana Muda Perubatan dan Sains Perubatan di Universiti Putra Malaysia dijemput untuk mengambil bahagian dalam soal selidik yang mengandungi soalan-soalan bagi mengukur persekitaran pembelajaran, latar belakang demografi, kaedah pembelajaran, kualiti hidup, psikologi tekanan, daya tahan dan emosi semasa. "Dundee Ready Educational Environment Measure (DREEM)" telah digunakan dan statistik diskriptif digunakan. Inventori kajian mengukur persepsi pelajar terhadap persekitaran pembelajaran dan membahagikan skor markah kepada lima bahagian. Markah minima bagi setiap bahagian dan item dalam setiap bahagian dikira dan dipadankan mengikut urutan, markah keseluruhan juga ditambah bagi semua item. Dengan melihat urutan item, pihak fakulti mampu mengenal pasti titik kekuatan dan permasalahan yang perlu diperbaiki. Chi square digunakan untuk mengenalpasti sekiranya terdapat perkaitan antara persekitaran pembelajaran dan faktor-faktor yang ditetapkan; seperti kaedah pendidikan, kualiti hidup, psikologi tekanan, daya tahan dan emosi semasa. Perkaitan

yang menonjol diambil kira dan dinilai dalam regresi logistik untuk memahami faktor-faktor yang menyumbang kepada persepsi persekitaran pelajaran yang lebih baik.

Empat ratus empat puluh daripada 528 pelajar memberi respon terhadap kajian ini, dengan kadar respon sebanyak 83.3%. Persepsi pelajar terhadap persekitaran pembelajaran mereka adalah positif, dengan skor 136.06/200. Persepsi pelajar yang beranggapan positif adalah dari segi tenaga pengajar yang tinggi pengetahuan dan mempunyai hubungan yang baik dengan pesakit, rakan-rakan yang baik dan keinginan untuk mengambil bahagian dalam pembelajaran. Kajian ini turut mengenalpasti titik permasalahan seperti tekanan dalam fakta-fakta pembelajaran, guru mempunyai hak mutlak, penipuan dalam pembelajaran dan material pelajaran yang terlalu banyak untuk dihafal. Kajian ini turut mengenal pasti kaitan antara kaedah pembelajaran secara mendalam dan strategik, mengalami depresi dan kerisauan, semua aspek dalam kualiti kehidupan (fizikal, psikologikal, sosial dan persekitaran), personaliti ciri afektif tinggi dan memusnah, apabila dikaitkan dengan persekitaran pembelajaran. Regresi logistik binari menunjukkan antara faktor-faktor yang mempengaruhi skor yang lebih tinggi terhadap persekitaran pembelajaran termasuk memiliki kualiti hidup sosial yang sederhana ke tinggi, cara pembelajaran secara strategik, tidak mengalam depresi, dan mempunyai personaliti ciri afektif tinggi. Daripada kajian ini, faktor yang disenaraikan mampu membantu fakulti dalam memperbaiki titik permasalahan yang perlu diberikan perhatian, dengan menerima kritikan pendapat (penekanan terhadap fakta pembelajaran, guru yang berautoriti mutlak, penipuan dan material yang terlampau banyak), dan menghargai usaha-usaha pelbagai pihak yang menjadikan skor tinggi (guru-guru, rakan-rakan dan motivasi diri). Seterusnya, faktor-faktor yang mempengaruhi persekitaran pembelajaran boleh dijadikan rujukan pada fakulti dalam menentukan hala tuju pada masa hadapan, serta meyakinkan pihak pengurusan mengenai kepentingan sosial kualiti hidup pelajar, kaedah pembelajaran strategik, memastikan pelajar tidak menghadapi tekanan dan memahami pelajar berciri afektif tinggi dengan lebih mendalam.

Kata Kunci: persepsi terhadap persekitaran pembelajaran, pelajar perubatan, pendidikan perubatan.

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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## LIST OF ABBREVIATIONS

UPM	Universiti Putra Malaysia
IMED	International Medical Education
FMHS	Faculty of Medicine and Health Sciences
SCOPME	UK Standing Committee on Postgraduate Medical Education
LEP	Learning Environment Perception
DREEM	Dundee Ready Educational Environment Measure
LA	Learning Approach
QOL	Quality of Life
DASS	Depression, Anxiety, Stress Scale
PANAS	Positive Affect, Negative Affect Scale
WHO	World Health Organization
WHOQOL- BREF	World Health Organization Quality of Life Assessment(shortened version)
BRS	Brief Resilience Scale

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the Study

Medical education was previously confined to disseminating vast amounts of technical and complex knowledge to young minds. However, today's medical graduates are not prepared for future challenges that mutate from the current policy. The World Health Organization (WHO) has devised Regional Guidelines on Quality Assurance in Medical Education to upgrade the medical school's curriculum in line with global consensus and enable medical schools to meet international standards. These are summarized into nine broad areas in which the learning environment plays a vital role in at least three critical regions: education program, educational resources, and program evaluation (WHO, 2005).

It was only since Hutchinson's work in 2003 that studying the learning environment in the medical context has gained momentum (Hutchinson, 2003). In the literature, there is a growing concern over the learning environment as a determinant for faculty's quality assurance (Roff et al., , 2005), student well-being (Dyrbye et al., 2010), and competency (Teunissen et al., 2018). There are different views on the learning environment, namely students' perceptions, teachers, and various stakeholders (Fleit et al., 2017). The majority of the publications focused on the student's perception in optimising professional development (Skochelak et al., 2016) as it can be cultivated over time (Dunham et al., 2017) to prevent harmful practices (Fleit et al., 2017).

The learning environment is part of the five principal concepts in medical education apart from curriculum, climate, quality, and change. The learning environment can also be described as a climate, which is the soul and spirit of a medical school and an essential determinant of behaviour. According to Genn, the environment is inseparably bound with the other four vital concepts, attached to materialisation and operationalisation of unique ideas and are inevitably related to each other (Genn, 2001).

Schaik and the team suggested an exemplary learning environment whereby there is a need to have a realistic vision and incorporate the different individual agents' complexity. These agents are interrelated and follow a set of foundations, with it being the importance of integrating diverse perspectives and collaboration (Van Schaik et al., 2019). Literature in the field has proved that learning environment is associated with many factors, including sociodemographic profiles (Akareem & Hossain, 2016), personal learning style and motivation (Ferguson et al., 2002), quality of life (Enns et al., 2016) and resilience (Kraemer et al., 2016).

A favourable learning climate, including ample learning classes, welcoming clinical settings and inspiring, proficient, and friendly educators will catalyse the students' motivation and, in turn, leads to enhanced achievement and engagement in learning (Hutchinson, 2003). A positive learning environment is vital for the students to excel in academics (Wayne et al., 2013), increase morale development (Branch, 2000), and boost humanistic skills when dealing with patients (Shochet et al., 2013). In contrast, a hostile learning environment results in suboptimal learning conditions that may be derived from being mistreated in a single event or repeatedly over the years during the study (Gan & Snell, 2014), and this will eventually lead to burnout (Cook et al., 2015; Wang et al., 2019).

## **1.2 Problem statement**

The learning environment is a dynamic, vibrant, and collaborative culture, allowing medical students the chance to apply theoretical knowledge in the clinical setting, building individual and professional competencies (McConnell & McKay, 2018). Given the magnitude of the educational environment in influencing academic achievements (Genn, 2001) and skills acquisition (Hoff et al., 2004), a growing interest in the well-being of a physician has led medical educationists around the world to gather for a unifying perspective regarding an encouraging learning environment (Attipoe et al., 2018). Conversely, undesirable learning environments posed risks on the intern and practising physicians, which may lead these groups to depression (Douglas et al., 2016). According to Mata and the team's systematic review, the prevalence of depression among healthcare professionals ranged from 29% to 43%. This number increased at an alarming rate every year (Douglas et al., 2016). Besides that, the exhausting daily routine has also led to burnout (Gunderson, 2001) among the healthcare practitioners, which could directly compromise patient care (Dewa et al., 2017).

Depression and burnout are universal, particularly in undergraduate medical students (Altannir et al., 2019; Hansell et al., 2019; Tsai et al., 2014). It usually starts with social isolation (Glauser, 2019), leading to mental health degradation. Next, depersonalisation begins to kick in, and the student is prone to drop out of medical school, according to a 2010 multi-institution study published in *Academic Medicine* (Dyrbye et al., 2010). Furthermore, Maher and his team attempted to explore the reason for these dropouts. They attributed them to be multi-factorial besides explaining the educational environment's role in an undergraduate medical education setting. The students generally failed to adapt to the learning environment during the early years in medical school, leading them to leave medicine mid-year after exposure to the busy clinical setting. The attrition rate in the final year medical students is low due to persistent experience in a toxic environment and late-diagnosed depression (Maher et al., 2013).

Additionally, a hostile learning environment has also been known to be in a less favourable setting, whereby widespread mistreatment often occurs during clinical rotation (Kulaylat et al., 2017). Mistreatment is considered a threat to an individual learning process, and educators could unintentionally do this by neglecting them. Neglecting the students or passive injustice has been the most distressing component of mistreatment (Castillo-Angeles et al., 2017). Like a chain effect, this will result in an overall decrease in the

student's academic performance (Ugusman et al., 2015) and quality of life (De Oliveira et al., 2017). A previous study reported that students who excel in the course perceived their learning environment better than the underachiever students (Mayya & Roff, 2004) regardless of their performance before entering medical school (Bakhshi, Bakhshialiabad, & Hassanshahi, 2014).

Recent studies attempted to explore other components that may affect the learning environment, including the students' approach to studying (Al-Qahtani, 2015), resilience and coping style (Chew et al., 2019), and individual personalities (Chan et al., 2018). Due to complex interactions between these factors, an individual's experience and learning outcomes will differ between the medical students (Durning & Artino, 2011).

In Malaysia, the number of medical graduates has been increasing in recent years and has strained the government's capacity to provide training facilities. The demand for posts has also exceeded the number of available positions in the public sector. There was a deficit of 2891 medical doctors in 2012, and in 2020, there was a surplus of 26,358 medical doctors, abiding by the rule of six hundred population to one doctor (Lai et al., 2009). This situation directly impacted the clinical learning environment due to the significant proportion of housemen taking longer than two years to finish training. Subsequently, senior doctors were overburdened to monitor the excessive number of trainees (Ministry of Health Malaysia, 2016).

Moreover, reports overseas suggest that medical students entered medical schools without minimum qualifications, and some had to cheat in exams and bribed course organizers to pass in examination (Hafeez et al., 2019). Therefore, it is not shocking when it was announced that housemen were among the highest number to leave the public service (Bakar, 2017). The number was close to 850 individuals for three consecutive years (2017 to 2019), with approximately 300 individuals annually, with a 34% increment before the implementation of contract officers (Lim Huey Teng, 2019).

Learning environment optimisation may guide the faculty members' route to improve students' achievement and well-being and minimizing mental health issues (Wang et al., 2020). In the context of health professionals course in Malaysia, researchers in Malaysia's public and private health faculty had shared their findings regarding the learning environment (Haque et al., 2017; Jaffar et al., 2019; Myint et al., 2016; Nurumal et al., 2009; Redhwan et al., 2014; Tackett et al., 2015; Ugusman et al., 2015; Wong et al., 2015, Yee et al., 2019; Yusoff et al., 2013; Zanolli et al., 2020).

Previous studies attempted to correlate the learning environment with an individual factor that may affect the learning environment and found a suggestive relationship between both constructs. However, the constructs were studied individually and appear to be fragmented (Chan et al., 2018). Furthermore, this research provided a significant opportunity to understand whether respondents' current affect correlate with their perceived learning environment in Malaysia. These findings will allow faculty members

to develop strategies and interventions focusing on the current context to better support UPM's undergraduate medical students.

### **1.3 Significance of the Study**

Medical education is part of the backbone in producing competent and good doctors. Therefore, improvement in the learning environment is expected to enrich students' experience before becoming full-fledged medical personnel. For many years, medical educationist has identified variables that may affect Learning Environment Perception (LEP), and this study attempted to substantiate the factors such as learning approach, psychological distress, quality of life, resilience, and introducing a new variable, current affect.

### **1.4 Research Questions**

The research questions for this study were:

- i. How do undergraduate medical students at UPM perceive their learning environment according to the Dundee Ready Educational Environment Measure(DREEM)?
- ii. What are the mean scores for each subscale?
- iii. What are the items with the highest and lowest mean score?
- iv. Is there an association between learning approach, psychological distress, quality of life, resilience, and current affect in perceiving learning environment?
- v. Do the factors of learning approach, psychological distress, quality of life, resilience, and current affect influence learning environment perception?

### **1.5 Study Objectives**

#### **1.5.1 General Objective**

To assess learning environment perception (LEP) and its associated factors among undergraduate medical students at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

### **1.5.2 Specific Objectives**

- i. To identify the sociodemographic background of respondents.
- ii. To determine the learning environment perception using DREEM.
- iii. To determine the association between learning environment perception with learning approach, psychological distress, quality of life, resilience, and current affect.
- iv. To determine predictors for learning environment perception, including learning approach, psychological distress, quality of life, resilience, and current affect.

### **1.6 Alternative Hypotheses**

The hypotheses of the study are:

- i. There is an association between learning environment perception and learning approach (deep/strategic/surface), psychological distress (depression, anxiety, and stress), quality of life (low/moderate/high in a physical, psychological, social, and environmental domain), resilience (low, normal or high), and current affect (high affective, low affective, self-actualization and self-destruction).
- ii. Learning approach (deep/strategic/surface), psychological distress (depression, anxiety, and stress), quality of life (low/moderate/high in a physical, psychological, social, and environmental domain), resilience (low/normal/high), and current affect (high affective, low affective, self-actualization and self-destruction) are significant predictors of learning environment perception.

### **1.7 Definitions of variables**

The conceptual definition of variables and operational definition of variables are in **APPENDIX A** (page 117).

## 1.8 Conceptual Framework

Figure 1 in the next page explained the conceptual framework of the study.

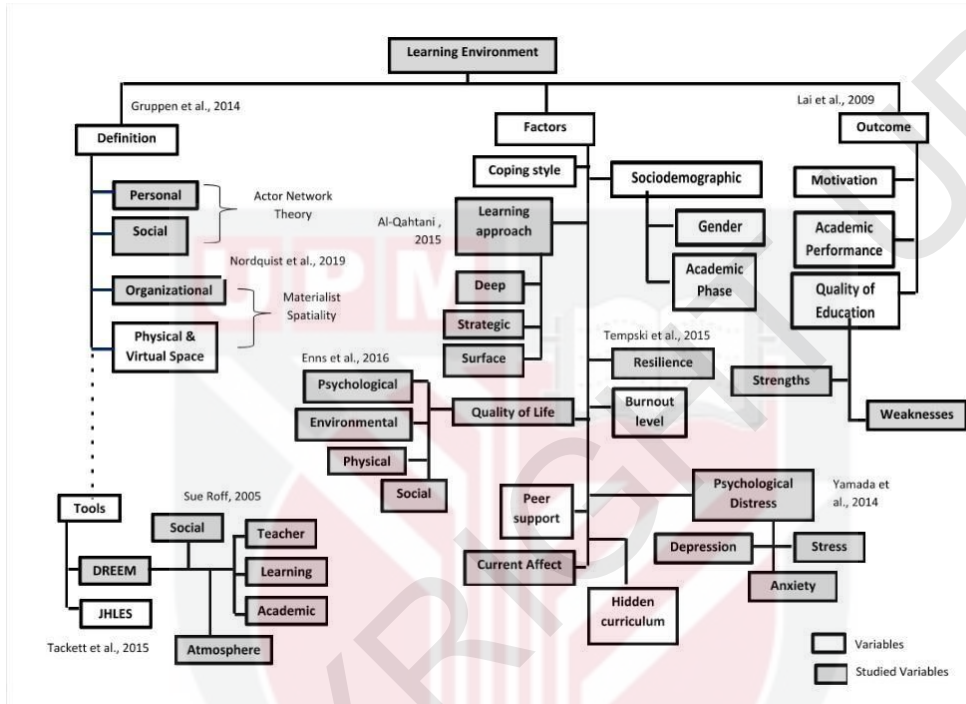


Figure 1.1 : Conceptual framework of the study



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## BIODATA OF STUDENT

Dr Ilmi Nadhrah Katiman was born on 27<sup>th</sup> October 1989 at Kajang, Selangor. She completed her kindergarten in Tadika Furqan and later continued her education at Sekolah Islam Al-Amin Bangi. She chose SMKA Maahad Hamidiah for her secondary education and completed her Sijil Pelajaran Malaysia at Sekolah Berasrama Penuh Integrasi Gopeng in Perak. She had one term experience in Darul Quran Kuala Kubu Bharu before preparing her pre-medical course at International Education Center (INTEC) Shah Alam, Selangor. From September 2007 to June 2012, she managed to excel in medical school and graduated with Bachelor of Medicine and Surgery (MBBS) from Jordan University of Science and Technology (JUST).

She served as a house officer in Kajang Hospital and later joined Universiti Putra Malaysia for pursuing Master in Medical Science. While completing her study, she had been working as a humanitarian servant with United Nations High Commissioner for Refugees in Kuala Lumpur. Combining her experience in hard sciences and social science, it had made her view the world's perspective in a balanced way while trying to contribute to the current healthcare system and advocate for the stateless community dynamically.

Her ambition is to lead the life of a physician scientist, and her interests are in the fields of medical imaging, health research, and biostatistics. She had vowed to continue helping the marginalized community by leading her own social welfare nonprofit organization.



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