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Nascent Entrepreneurial Behaviour Among Medical Students in Malaysia: The Role of Sociodemographic Factors

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ABSTRACT

Entrepreneurship is a viable option for young doctors looking for careers beyond patient care. Nascent entrepreneurial behaviour is said to predict future entrepreneurship. To understand whether medical students possess an entrepreneurial spirit, this research aimed to assess nascent entrepreneurial behaviour among students at a private medical school in Malaysia and the sociodemographic factors influencing it. A quantitative approach with a cross-sectional survey design was employed. The data were collected from 318 medical students selected by a disproportionate stratified random sampling technique. The respondents rated their nascent entrepreneurial behaviour on a 13-item self-administered questionnaire. The responses obtained were analysed using descriptive and inferential statistical tests. Medical students in Malaysia showed moderately low levels of nascent entrepreneurial behaviour. Among the sociodemographic factors, gender and marital status significantly influenced nascent entrepreneurial behaviour among the medical students. The year of study, ethnicity and family income were insignificant. The low level of nascent entrepreneurial behaviour among medical students in Malaysia implies that they are likelier to be job seekers than job creators. Therefore, higher education institutions across the globe need to foster entrepreneurial values in all students, irrespective of their chosen field of study. An understanding of the sociodemographic factors that influence nascent entrepreneurial behaviour will help policy makers plan remedial steps to inculcate an entrepreneurial mindset among medical students.

Keywords: *Nascent entrepreneurial behaviour, Entrepreneurship, Medical students, Sociodemographic factors, Malaysia*

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INTRODUCTION

A single job for life is no longer a reality. Many doctors are looking for alternative careers (1–4). The COVID-19 pandemic has made matters worse with its impact on medical education (5). Limited patient contact has led to decreased work performance of medical students, resulting in an increase in their stress levels (6). Entrepreneurship or self-employment is a viable option for them. In addition to creating wealth for oneself and one's family, entrepreneurship provides an avenue for doctors to contribute to the field of medical innovations directed at patient-centred care (7). To take up entrepreneurship, medical students need to supplement their clinical knowledge business skills (8). Educators in many Western medical schools have incorporated courses to inculcate management and innovative skills in their students (9,10). However, similar initiatives to foster entrepreneurial values in all students, irrespective of their chosen field of study, are not seen across the globe. In Malaysia, the Malaysian Qualification Agency has included entrepreneurial skills as one of the programme outcomes for all undergraduate courses (11). To accomplish this, many Malaysian universities have introduced entrepreneurial activities on their campuses. However, entrepreneurship does not have a place in the formal medical curriculum, which primarily focuses on skills needed for patient care. A substantial gap exists in the literature on the opinions of medical students regarding entrepreneurship (10). The theoretical foundation for predicting entrepreneurial behaviour is traditionally based on the theory of planned behaviour, which states that intentions are strong predictors of any planned behaviour (12). Therefore, most studies focusing on student entrepreneurship have measured their entrepreneurial intentions (13–15). However, recent empirical evidence reveals that entrepreneurial intentions rarely culminate in new venture creation (16). Scholars therefore recommend looking beyond mere intentions (17). This research investigated nascent entrepreneurial behaviour among medical students.

Nascent entrepreneurial behaviour refers to activities that follow intentions but precede the actual new venture creation (18,19). These specific activities signify the seriousness of the individual taking up entrepreneurship as a career in the future (20). Individuals "who not only say they are currently giving serious thought to the new business, but also are engaged in at least two entrepreneurial activities, such as looking for facilities and equipment, writing a business plan, investing money, or organizing a start-up team" are nascent entrepreneurs (21p43). Few studies are available in the literature assessing nascent entrepreneurial behaviour among the student population and none assessing it among medical students. Furthermore, scholars believe that sociodemographic and cultural factors influence entrepreneurial behaviour (16,22,23). Therefore, this research aimed to identify the level of nascent entrepreneurial behaviour among medical students in Malaysia and to study the sociodemographic factors influencing it.

METHODS

Study Setting and Population

This study was conducted in a private medical school in Malaysia that offers an outcome-based curriculum over five years. Entrepreneurial education is not incorporated into the curriculum, but students are encouraged to participate in the graduate employability skills programme offered by the university. The cohort of the 2020 academic year was selected for this study.

Instrument

The instrument utilized in this study consisted of a two-section questionnaire. The initial section focused on capturing the demographic characteristics of the students, including age, gender, academic year, and grade point average (GPA). The second section comprised the Persian version of the Jefferson Scale of Empathy (Student version) (JSE-S) questionnaire (16). The JSE, developed by Hojat, is a widely employed tool for assessing empathy levels among medical students. Its validity and reliability have been confirmed in a study conducted by Hojat et al. (7). Rahimi and Hashempour adapted the JSE for the Iranian population (17, 18). The Iranian version of the scale demonstrated a Cronbach's alpha of 0.87 for the entire instrument. It comprises 20 items divided into three subscales: "Perspective Taking" (consisting of 10 items with a score range of 10-70), "Compassionate Care" (comprising eight items with a score range of 8-56), and "Walking in the Patient's Shoes" (comprising two items with a score range of 2-14). This questionnaire includes ten negatively worded items that are reverse-scored. Each item is rated on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The total score ranges from 20 to 140, with higher scores indicating a higher level of empathy and vice versa.

Students' grade point averages (GPAs) were collected through self-report. As part of the questionnaire, students were requested to indicate their academic average and personal characteristics. Subsequently, the students were classified into two groups based on their GPA, distinguishing between high and low academic performance. Specifically, students with GPAs below the mean were categorized as the low group, while those with GPAs above the mean were classified as the high group.

Before distributing the questionnaires, the participants were provided with a clear explanation of the study's objectives and instructions on completing the questionnaires. The importance of maintaining the confidentiality of information was emphasized. Written informed consent was obtained from all participating students prior to their involvement in the research. The respondents completed the questionnaires anonymously, and strict confidentiality measures were implemented to ensure the privacy of their responses.

Research Design

A quantitative approach with a cross-sectional survey design was employed as it was the most economical method to collect data from a large population with the least researcher interference. The data were collected using a questionnaire with close-ended questions.

Sample Design

The student directory of the 2020 cohort formed the sample frame. A sample size of 318 was calculated using the Krejcie-Morgan table with due consideration for non-responders. A disproportionate stratified random sampling technique was used to select participants from the sample frame. The student population was divided into three strata: final year, clinical (3rd and 4th) years and preclinical (1st and 2nd) years. All the final-year medical students were selected as they were on the verge of making a career choice, accounting for 37% of the sample. Another 33% was drawn from the clinical years, while the remaining 30% came from the preclinical year medical students. The data were collected from April 2021 to September 2021.

Research Instrument

The questionnaire was developed by adapting items from previous studies (24,25). The questionnaire had two sections. The first section collected information on the respondents' sociodemographic characteristics, such as gender, ethnicity, marital status and family income. The second section had 13 items assessing the respondents' nascent entrepreneurial behaviour on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). These items were evaluated by five academic experts for content validity. Minor modifications were made to avoid ambiguity in the language. The questionnaire was pilot tested with 30 medical students who were not part of the present study population, and reliability analysis was conducted. The Cronbach's alpha was above the threshold of 0.7, indicating good internal consistency among the questionnaire items (26). To evaluate the level of nascent entrepreneurial behaviour, the mean score interpretation method described by Norasmah and Othman (2002) was adapted (27). According to this scoring rubric, a mean score of 1 to 2 suggests a low level, 2.01 to 3 is moderately low, 3.01 to 4 is moderately high and above 4.01 to 5 is high.

Ethical Considerations

Ethical approval to conduct this research was obtained from the university's ethical committee prior to the data collection. All the participants were informed about the objectives of the research, assured that their participation in this survey was voluntary and that their anonymity would be maintained, and their informed consent was obtained prior to the survey.

Data Analysis

The collected data were screened for missing values, outliers and invalid entries and analysed using SPSS software version 26. The focus of the analysis was to test the impact of sociodemographic variables on the nascent entrepreneurial behaviour of the study population. Hence, a linear regression analysis was conducted. For all the analyses performed, a value of $p< 0.05$ was considered statistically significant.

RESULTS

A total of 318 students answered the questionnaire. The respondents' profiles were as shown in Table 1, with 68.30% females. Further, 54.09% were Malays, 39.62% were Indians, 2.52% were Chinese, and 3.77% were others. Most students (98.10%) were single. With respect to family income, the majority (68.24%) had a monthly income of <10000 Malaysian ringgit (RM), while the rest had higher family incomes. Females outnumbered males in all five years of study. The female preponderance in Malaysian universities is well documented (28). Although all three major ethnic groups in Malaysia were represented in this sample, a larger proportion of Indians can be explained by the greater representation of this ethnic group in the sample frame. The unmarried status among 98.10% of the sample could be attributed to this study being conducted on undergraduate students whose average age was less than 25 years, while the mean age at marriage in Malaysia is 28 years for males and 27 for females (28).

The data were normally distributed with calculated skewness between 2 and +2 and kurtosis between 7 and +7 (29). The calculated mean score for each of the items measuring nascent entrepreneurial behaviour ranged from 2.3 to 2.8 on the five-point scale, as shown in Table 2. These mean values denoted moderately low levels of nascent entrepreneurial behaviour among the study population (25,27).

Table 1: Demographic profile of the study population (n = 318)

Demographics	**Year of study**					**Total**	**Percentage (%)**
	Y 1	Y 2	Y 3	Y 4	Y 5		
Gender							
Male	23	16	8	23	31	101	31.70
Female	26	33	38	31	89	217	68.30
Ethnicity							
Malay	32	22	20	37	61	172	54.09
Chinese	1	3	1	0	3	8	02.52
Indian	14	21	21	16	54	126	39.62
Others	2	3	4	1	2	12	03.77
Marital status							
Single	49	49	45	54	115	312	98.10
Married	0	0	1	0	5	6	01.90
Household income (RM)							
<10,000	26	32	35	36	88	217	68.24
10,000-25,000	22	10	10	13	26	81	25.47
25,000-50,000	0	5	1	5	5	16	05.03
>50,000	1	2	0	0	1	4	01.26
Total	49	49	46	54	120	318	100

Table 2 shows the mean score for the items measuring nascent entrepreneurial behaviour among study population.

Code	Item	Mean	SD
EB 1	I often hang out with entrepreneurs.	2.777	0.984
EB 2	I often read books/magazines related to business.	2.701	0.971
EB 3	I often surf the internet looking for business opportunities.	2.874	0.881
EB 4	I often engage in business online.	2.777	0.821
EB 5	I regularly attend social gatherings which provides opportunities to meet people related to business.	2.544	0.639
EB 6	I frequently visit trade exhibitions because it allows me to get ideas and identify business opportunities.	2.541	0.897
EB 7	I regularly participate in entrepreneurship workshops organized by the university.	2.506	0.990
EB 8	I regularly participate in seminars/entrepreneurship courses organized by the universities.	2.453	0.842
EB 9	I regularly run a part-time business at the university.	2.374	0.936
EB 10	I often review strategic locations to start a business.	2.597	0.988
EB 11	I am often involved in sales related activities organized by the university.	2.538	0.971
EB 12	I often seek advice from government or private agencies about entrepreneurial opportunities	2.387	0.972
EB 13	I often seek advice from family and friends in the same field as my prospective business.	2.843	0.977
Overall EB		2.663	0.913

Influence of Sociodemographic Factors on the Nascent Entrepreneurial Behaviour of Medical Students

Linear regression analysis was performed to study the impact of the sociodemographic factors (independent variables) on nascent entrepreneurial behaviour (dependent variable). The results are shown in Table 3.

Table 3: The impact of sociodemographic factors on the nascent entrepreneurial behaviour among the medical students.

Demographic		n	Mean	Beta (95%CI)	R^2	Adjusted R^2	p value
Gender	Male	101	3.029	0.528(0.279, 0.672)	0.108	0.085	<0.01
	Female*	217	2.483				

Ethnicity	Malay*	172	2.702		0.013	0.003	
	Chinese	8	2.509	-0.541(-0.789, 0.430)			0.589
	Indian	126	2.654	-0.413(-0.419, 0.176)			0.680
	Other	12	2.122	-1.975(-2.170, -0.003)			0.049
Year of study	Year 1	49	2.764	0.041(-0.173, 0.495)	0.009	-0.004	0.504
	Year 2	49	2.793	0.051(-0.167, 0.501)			0.403
	Year 3	46	2.554	-0.035(-0.365, 0.315)			0.563
	Year 4	54	2.653	-0.046(-0.193, 0.367)			0.454
	Year 5*	120	2.657				
Marital status	Single*	312	2.632				<0.01
	Married	6	3.936	0.180(0.092, 1.765)	0.035	0.029	
Household income	<RM 10,000*	217	2.687		0.005	-0.004	
	RM 10,000-25,000	81	2.599	-0.682(-0.700, 0.141)			0.496
	RM 25,000-50,000	16	2.668	-0.073(-0.439, 0.438)			0.942
	>RM 50,000	4	2.115	-0.065(-1.354,0.353)			0.252

*Group with the maximum number of participants was taken as the reference

Gender had a significant impact on the nascent entrepreneurial behaviour scores (= 0.528, $p < 0.01$). Males were found to exhibit greater nascent entrepreneurial behaviour than their female counterparts. Similarly, marital status also had a statistically significant impact on the nascent entrepreneurial behaviour of the medical students (= 0.180, $p = 0.01$), with the married students showing more intent for an entrepreneurial career. However, the ethnicity of the participants, their family income and year of study did not have a significant impact on their nascent entrepreneurial behaviour. Further, the predictive accuracy (R2) of the two sociodemographic variables with a significant impact on nascent entrepreneurial behaviour was calculated. Gender with R2 = 0.108 and marital status with R2 = 0.035 denoted weak predictive value for the nascent entrepreneurial behaviour of medical students, as the R2 values were less than 0.25 (30). Nevertheless, the results show that gender accounted for 10.80% of the variance in nascent entrepreneurial behaviour, while marital status predicted 3.50% of the variance in nascent entrepreneurial behaviour among the medical students.

DISCUSSION

To promote entrepreneurial behaviour, higher educational institutions target students from business, engineering, and vocational courses for both training and assessment of entrepreneurial skills, while students pursuing medicine are largely ignored (31,32). With the aim of filling in this gap, the current study assessed nascent entrepreneurial behaviour among medical students. A key finding was that their mean nascent entrepreneurial behaviour score was moderately low. This result mirrors observations by researchers across the globe (33–36). It underlines the harsh reality that medical students have poor entrepreneurial drive which may be due to the lack of robust entrepreneurial courses in medical education (37).

A student's career choice in general and entrepreneurial behaviour in particular is believed to be influenced by various social and cultural factors (38–40). The results of the present study revealed that gender had a significant impact and accounted for 10.80% of the variance in nascent entrepreneurial behaviour among medical students. Males exhibited greater nascent entrepreneurial behaviour than females, with a statistically significant difference in the mean score. Traditionally, entrepreneurial activity has been considered a masculine behaviour (41,42). The ability to secure finance and take financial risks has mainly been attributed to men (43,44). In the Asian scenario, scholars believe that greater entrepreneurial self-efficacy among males leads to higher entrepreneurial behaviour (45–47). According to role congruity theory, females are believed to have lower attitudes, subjective norms and perceived behaviour control compared to their male counterparts (48). This role incongruence may lead to females underestimating their capacity, decreasing their self-confidence, and resulting in less nascent entrepreneurial behaviour among female medical students.

Malaysia has a multicultural population with a majority of Malays followed by Chinese, Indians and other indigenous ethnic groups (49). Cultural values are believed to influence an individual's behaviour (50). However, in the present study, no significant difference in the respondents' nascent entrepreneurial behaviour based on their ethnic background was observed, which echoes the findings of previous scholars (51). With similar ethnic backgrounds in Singapore, Wang and Wong's (2004) research reported that although students of Chinese descent had better business knowledge, it did not transform into higher entrepreneurial behaviour (52).

Most respondents in this study were single which is in line with previous findings on Malaysian undergraduate students (53). Married individuals in the present study demonstrated higher mean scores on nascent entrepreneurial behaviour, which echoes the findings of earlier researchers, who reported higher entrepreneurial attitudes among married individuals (54,55). Sandhu et al. (2011) argue that although married students with their multiple commitments are averse to risk, they are more mature in their thinking, which inclines them towards entrepreneurship (47). Further, the regression analysis also revealed that the marital status of an individual accounted for 3.50% of the variance in nascent entrepreneurial behaviour among the medical students.

With respect to family income, a vast majority of the students (68.24%) hailed from families with a monthly income of <10000 Malaysian ringgit (RM). Based on family income, no significant difference was noted in the mean scores of nascent entrepreneurial behaviour among the participants. The regression analysis revealed that students from families with higher family incomes had less nascent entrepreneurial behaviour. Wang and Wong (2004) agree that entrepreneurial interest is mainly based on an individual's drive and not on a family's financial support (52). Hence, among the sociodemographic factors studied, only gender and marital status had a significant impact on the respondents' nascent entrepreneurial behaviour.

CONTRIBUTIONS AND LIMITATIONS OF THE STUDY

This research study is the first comprehensive study on the nascent entrepreneurial behaviour of medical students in a developing country. Hence, it contributes to the body of knowledge on students' nascent entrepreneurial behaviour. Second, this study's findings could prove helpful for future researchers to conduct similar research in other countries and cultures. Third, by investigating the role of sociodemographic factors influencing nascent entrepreneurial behaviour among medical students in a multicultural Asian country, it may help in recruiting suitable candidates for entrepreneurial skills training. However, the authors would like to acknowledge some limitations. The inferences of the study were drawn based on the results obtained from a self-administered questionnaire. A mixed-method approach would be more appropriate in future studies to obtain in-depth information. Marital status was not equally distributed among the sample. To authenticate the present study's findings, the authors suggest comparing nascent entrepreneurial behaviour among a larger population of married and unmarried student groups in the future. Additionally, the sample was drawn from a single medical school, which may limit generalization of the results. Further research on a larger sample of medical students from different institutions across the country is suggested.

CONCLUSION AND IMPLICATIONS OF THIS STUDY

Medical students demonstrated moderately low nascent entrepreneurial behaviour. The results posit a need for entrepreneurial courses to be incorporated into the medical curriculum. Initially, it could be offered as an elective for those medical students with an interest in business. With greater knowledge in innovation and managerial skills, they would be more confident in opening private clinics as well as exploring alternative careers in healthcare as managers or as physician-innovators. Thereby, the private sector could share the burden of the government in providing quality healthcare to all citizens. Gender and marital status had a statistically significant impact on nascent entrepreneurial behaviour. Though these sociodemographic variables cannot be manipulated to bring about the desired entrepreneurial behaviour among the study population, they could be useful while planning strategies to enhance entrepreneurship among medical students.

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ETHICAL APPROVAL

This study was approved by the Management and Science University Ethical Board (MSU-RMC-02/FR01/01/L1/015).

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