

## ORIGINAL ARTICLE

# Entrepreneurial Intention of Medical Students in Malaysia: Does Socio-Demographic Profile Matter?

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## ABSTRACT

**Introduction:** Though there are abundant studies on entrepreneurial intention among students pursuing higher education, there is a lacuna in understanding the entrepreneurial intention of medical students. In the present scenario of increasing unemployment among young medical graduates, this quantitative study was conducted with an aim to examine the level of entrepreneurial intention among medical students and the socio-demographic factors influencing it. **Methods:** The participants were 318 medical students of a private university in Malaysia. A cross-sectional study design with a validated adapted questionnaire was used to collect data. The data was analysed using descriptive and inferential statistics. **Results:** A moderately high level of entrepreneurial intention was found among the study population. Regression analysis revealed a statistically significant impact of gender and marital status on their entrepreneurial intention while ethnicity, year of study, household income or educational loan did not have a significant influence. **Conclusion:** Medical students in Malaysia showed a moderately high inclination towards an entrepreneurial career. Non-economic factors like gender and marital status proved to be stronger influencers of entrepreneurial intention than economic factors. This may help policy makers plan strategies to sustain their entrepreneurial intentions and facilitate for more entrepreneurial activities among young doctors in the future. *Malaysian Journal of Medicine and Health Sciences* (2023) 19(4):103-109. doi:10.47836/mjmhs19.4.16

**Keywords:** Entrepreneurial Intention, Entrepreneurship, Medical students, Sociodemographic factors, Malaysia

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## INTRODUCTION

Medicine has been generally regarded as a specialized field (1). The primary focus of present day medical education in Malaysia is preparing medical students for patient care with less emphasis on research and other skills (2). In recent years, there has been a rapid rise in the number of medical schools in Malaysia catering to a population of mere 32 million (2). This is a matter of concern as many medical students coming out of these medical schools annually are faced with limited opportunities for hospital placements (3). It is important that these students are aware of alternative career options in research, teaching, and entrepreneurship. With the recent popularity of digital healthcare and personalized medicine, newer avenues open for future medical graduates (4). Scholars agree that entrepreneurship usually starts with an entrepreneurial intention (5) which

is closely followed by identification of the business ideas and converting them into opportunities (6) and when backed by resources, finally culminates into a new business venture (7). Entrepreneurial intention refers to the desire to be an entrepreneur (8). Based on the theory of planned behaviour, scholars argue that strong entrepreneurial intention eventually leads to behaviour towards an entrepreneurial career (9). Contributing to this view, Bandura,(1986) stated that intentions and actions are a functional continuum separated by time (10). The entrepreneurial intentions of medical students have been largely disregarded as it is assumed that their career path is fixed (11). The current study aims to fill in this gap.

One of the goals of higher education is enabling graduates to be employable (12). To boost entrepreneurship, majority of the universities across the globe provide entrepreneurial education (13). Sadly, entrepreneurial education has failed to increase motivation towards entrepreneurship among students (14). This disparity between expectation and outcome may be the consequence of ignoring the socio-demographic

profile of the candidates selected for entrepreneurial training. Scholars agree that students' attitude towards entrepreneurship maybe largely influenced by their socioeconomic and cultural issues (15). Further, Lose & Kwahene, (2021) point out that in earlier entrepreneurial studies certain demographic variables like age, marital status, race, and place of origin have received less scholarly attention (16). Hence, this study aimed to investigate the level of entrepreneurial intention among medical students in Malaysia and the socio-demographic factors influencing it.

## **MATERIALS AND METHODS**

The researcher employed a quantitative method using cross-sectional analytical survey as it would minimize the researcher interference. Employing survey method was also economical as the data could be collected from a large population over a shorter interval of time (17).

### **Study population**

The medical students at a private medical school in Malaysia formed the study population. As sample frame was available, probability sampling was used. The final year students who were on the verge of choosing their career were considered better suited to answer this questionnaire than those who were still in their training years. Hence, a disproportionate stratified random sampling technique was used to select the sample with majority of students from the final years of training in the medical school. The sample size was calculated using the Krejcie Morgan table (18). Another 20% was added to the sample size to accommodate for the non-responders (19).

### **Research instrument**

The questionnaire used for the current study consisted of two sections. The section A of the instrument had five questions which mainly focussed on collecting data on the sociodemographic profile of the respondent like gender, ethnicity, year of study, household monthly income, and source of finance for medical education. While the section B was an adapted version of Entrepreneurial Intention Questionnaire (20). This section had eight close ended questions on a 5-point Likert scale anchored on 1=strongly disagree to 5=strongly agree. To ensure the content validity of the adapted questionnaire, it was evaluated by a panel of five experts from the university academia and five medical students. Minor changes were incorporated to ensure that the questionnaire was fair and there was no ambiguity in language or comprehension. This was followed by a pilot test on another group of 40 medical students who were not part of the study population. The internal consistency reliability of the scale was calculated. The Cronbach's alpha was 0.942 which indicated that the scale had excellent reliability (21).

### **Data Analysis**

The collected data was screened for any missing, inconsistent, or irrelevant entries and outliers. The descriptive analysis included frequency and percentage for categorical data as well as mean and standard deviation for numerical data. The inferential statistics involved regression analysis to measure the impact of each socio-demographic variable on entrepreneurial intention. For all statistical analysis performed, the significance level was set at  $p < 0.05$ .

### **Ethical consideration**

This study was conducted after obtaining ethical approval from the university research committee. The participants were provided an information sheet explaining the objectives of the study and assured about the confidentiality of the data collected. Furthermore, they were informed that their participation would be totally voluntary with liberty to withdraw from the study at any point of time without any fear of reprisal. An informed consent was obtained from all the participants.

## **RESULTS**

A total of 318 medical students voluntarily participated in the study. The demographic profile of the study population was as shown in Table I. Majority of the respondents were females (68.3% of the study population). This female preponderance was noticed in all five years of study. Among the students, 54.09 percent were from Malay ethnicity, 39.62 percent from Indian ethnicity, 2.52 percent were Chinese, and 3.77 percent were others. Among others, were minor ethnic groups like Dusun, Kenyah, Buddhists, Moor, Kadazan and Idahan. This research study involved undergraduate medical students who were in the age group of 18 to 25 years and hence majority of the students (98.1%) were single while 1.9% were married. Majority of the students (68.24%) claimed their monthly household income was <10000 Malaysian Ringgits (RM) while others came from families with higher household income. To get a better understanding of their family financial status, the source of finance for their medical education was sought. Majority of the students (63.8 percent) reported that they had secured an educational loan, while 28.6 percent were sponsored by family and a small minority had secured scholarship. Table II depicts the relation between household income and source of finance for medical education. It was seen that with increasing household income, more parents sponsored their children's education and students were less dependent on educational loan.

To measure the level of entrepreneurial intention among the study population, the mean score on the eight items of measuring entrepreneurial intention scale was calculated. The results depicted in Table III show that

**Table I: Demographic profile of study population**

	Demo-graphics	Year of study					Total	%	
		Y 1	Y 2	Y 3	Y 4	Y 5			
Individual Factors	Gender	Male	23	16	8	23	31	101	31.7%
		Female	26	33	38	31	89	217	68.3%
	Ethnicity	Malay	32	22	20	37	61	172	54.1%
		Chinese	1	3	1	0	3	8	02.5%
		Indian	14	21	21	16	54	126	39.6%
		Others	2	3	4	1	2	12	03.7%
Marital status	Single	49	49	45	54	115	312	98.1%	
	Married	0	0	1	0	5	6	01.9%	
Economic factors	Household income/month (in Malaysian Ringgit)	<10,000	26	32	35	36	88	217	68.2%
		10,000-25,000	22	10	10	13	26	81	25.4%
		25,000-50,000	0	5	1	5	5	16	05.0%
		>50,000	1	2	0	0	1	4	01.3%
	Source of finance for medical education	Self/family	12	10	7	20	42	91	28.6%
		Scholarship	2	4	5	7	6	24	07.5%
	Loan	35	35	34	27	72	203	63.8%	
Total		49	49	46	54	120	318	100%	

Y= year of study in medical school

**Table II: Relation of Household income/month and Source of finance for medical education**

Household income/month (in RM*)	Source of finance for medical education			
	Educational loan	Scholarship	Self/Family	Total
<10000	146 (67.3%)	19 (8.8%)	52 (23.9%)	217
10,000 -25,000	48 (59.2%)	06 (7.5%)	27 (33.3%)	81
25,000-50,000	07(44%)	01 (6%)	08 (50%)	16
>50,000	0 (0%)	0 (0%)	04 (100%)	04
Total	201	26	91	318

RM =Malaysian Ringgit

**Table III: Descriptive statistics of entrepreneurial intention among study population**

Code	Item	Mean	Std Dev
EI 1	I will choose "entrepreneur" as a career option.	3.22	1.089
EI 2	I would rather be an entrepreneur than a wage earner.	3.36	1.103
EI 3	I have been thinking seriously about starting a business after graduation.	3.10	1.166
EI 4	I intend to take steps to start a business someday.	3.52	1.131
EI 5	I want to be the boss/leader in my own organization.	3.68	1.088
EI 6	I will strive to do whatever it takes to start my own business.	3.52	1.100
EI 7	I will make every effort to run my own firm.	3.59	1.034
EI 8	I am determined to have a business in the future.	3.57	1.170

the mean scores ranged between 3.10 and 3.63 which can be considered as moderately high (22). The higher standard deviation scores point towards the variation in the opinion among students on each item measuring their intention to be an entrepreneur or be self-employed.

Further, the influence of the socio-demographic factors on the entrepreneurial intention of medical students was analyzed using regression analysis and depicted in Table IV. Among the socio-demographic factors investigated, gender had a significant positive impact ( $\beta=0.369$ ,  $p <0.01$ ) on entrepreneurial intention. Similarly, marital status also showed a significant positive impact ( $\beta=0.92$ ,  $p <0.05$ ). Though differences in the mean score on entrepreneurial intention was seen among students belonging to different ethnic groups, year of study in medicine and with varied household income backgrounds, it was not statistically significant.

**DISCUSSION**

There is a general impression that formal education reduces the possibility of taking up an entrepreneurial career (23). Further, it is vastly assumed that medical students' career path is directed only to patientcare. The advent of digitalization, biotechnology and personalised medicine has opened newer frontiers for present-day medical graduates. Moreover, researchers in the past have commented that culture and sociodemographic factors influence career choices especially, in Asian collectivistic societies where parents and elders are

**Table IV: Impact of socio-demographic variables on the entrepreneurial intention of medical students**

Demographic factors	N	Mean score	Std dev	Regression analysis			
				Beta (95%)	R <sup>2</sup>	Adjusted R <sup>2</sup>	p value
<b>Gender</b>							
Male	101	<b>3.696</b>	0.952	0.369	0.033	0.029	<0.01
Female*	217	3.327	0.933				
<b>Ethnicity</b>							
Malay*	172	3.452	0.945		.003	-0.006	
Chinese	8	<b>3.515</b>	0.672	0.063			0.856
Indian	126	3.456	0.990	0.004			0.975
Other	12	3.166	0.890	-0.286			0.317
<b>Year of study</b>							
Year 1	49	3.431	0.869	-0.041	0.001	-0.012	0.802
Year 2	49	<b>3.454</b>	0.845	-0.018			0.913
Year 3	46	3.372	0.958	-0.100			0.550
Year 4	54	3.451	1.125	-0.200			0.896
Year 5*	120	3.445	0.956				
<b>Marital status</b>							
Single*	312	3.427	0.950	0.927	0.018	0.014	0.018
Married	6	<b>4.354</b>	0.639				
<b>Household income</b>							
<RM 10,000*	217	3.459	0.922		0.001	-0.009	
RM 10,000-25,000	81	3.395	0.990	-0.065			0.605
RM 25,000-50,000	16	3.476	1.235	0.017			0.946

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

involved in decision making (24). Recent developments in entrepreneurship research also emphasizes the importance of taking into consideration the context on entrepreneurial decisions (25). This prompted the researchers to investigate the entrepreneurial intention in the context of medical students in Malaysia and examine the influence of socio-demographic factors on their entrepreneurial intentions.

In the current study, majority of the sample composed of students in final years of training in the medical school. It was deliberately done to get more accurate information as it was assumed that they would be more confident about their career choice. Past researchers agree to this argument (26). Further, female students exceeded the number of male students in the sample which could be attributed to the greater number of females in the sample frame. Similar trend is reported in many studies conducted on university students in Malaysia (27). Regarding ethnicity, the sample had representation from all major ethnic groups in Malaysia (28). With respect to their marital status, most of the students were unmarried. This could be explained by the fact that the average age of undergraduate medical students was below 27 years, which is the average age at marriage in Malaysia (28). Majority of the students reported monthly household income of <RM10,000, and depended more on educational loan or scholarship for paying their college fees (Table II). Among those with higher monthly household income, more financial support for education was provided by the family which reckons with the characteristics of a collectivist Asian society.

The findings of the present study show that medical students in Malaysia have moderately high entrepreneurial intention. This finding echoes with the results reported among Vietnamese youth (29) and Malaysian students in other faculties (30). Among the eight items, the highest score was for the item "I want to be the boss/leader in my own organization". This implies that the urge to be independent and need for autonomy is the driving force for them to venture into entrepreneurship. Need for autonomy has been considered as an entrepreneurial trait by many past researchers (31). A similar observation was reported in the past (32). Educated youth desire work-life balance, want to have an independent lifestyle and do not want to report to others (33). On the other hand, the lowest score was for "I have been thinking seriously about starting a business after graduation". This sheds light on the fact that though they have entrepreneurial intentions, majority were not considering it as a career option for the near future which mimics the observations made by Devi et al., (2020) (34). However, based on Ajzen's theory of planned behaviour, entrepreneurial intention is a strong predictor of entrepreneurial behaviour (8). Hence, with the overall moderately high mean score on entrepreneurial intention among this sample,

entrepreneurship may still occur after a variable time lag.

Among the demographic factors, gender had a significant influence on the entrepreneurial intention (Table IV). The coefficient of determination ( $R^2$ ) was 0.033 which meant gender could explain 3.3% variance in entrepreneurial intention. Male students demonstrated more intent for an entrepreneurial career than females. This observation has been reported in many empirical studies (35-37). Researchers believe that the challenges and barriers that women face in the society on what is considered acceptable may influence their perceptions on entrepreneurship (38). Besides, females have less risk-taking propensity when compared to their male counterparts leading to hesitancy for an entrepreneurial career (39). Moreover, females are more influenced by the opinion of family and friends (25,40). In Southeast Asian context, culture encourages women to focus more on family and work as an employee (41). Thereby, lower self-efficacy may have contributed to the lower entrepreneurial intention observed among female students in the present study.

Malaysia has a multicultural society with three major ethnic groups Malays, Chinese and Indians (27). In addition, there are minor ethnic groups and immigrants. Though there were minor differences in their entrepreneurial intention, it was not statistically significant. This finding agrees with the results of Wang & Wong, (2004) who reported that ethnicity did not have a significant impact on entrepreneurial activity in Singapore (41). Interestingly, married students were found to have a significantly higher intent towards entrepreneurship than those who were single. The predictive accuracy ( $R^2$ ) was 0.018 which meant that marital status could explain 1.8 % variance in entrepreneurial intention. This finding finds agreement with the observations of some past researchers who believe that though married students have greater responsibilities and are averse to risk-taking behaviour, they are more mature in their decision-making capacity which may be responsible for their inclination towards entrepreneurship (42). A vast majority of the respondents relied on educational loan to finance their five-year medical course (Table II). Though educational loans provide financial security and give medical students the opportunity to concentrate on their studies, utilizing loan also meant incurring a debt (43). Access to capital is vital for any entrepreneurial activity (44). The results of this study however showed that household income and source of finance for education did not have a significant influence on the entrepreneurial intention of the medical students. This is contrary to the results reported by earlier empirical studies (45-49). The results suggest that though finance is important for creating a new business, it is not the deciding factor for an individual to have an intent for an entrepreneurial career. Scholars agree to this argument that non-economic factors are stronger influencers of

entrepreneurial intention (32,41).

The present study provided an insight to the entrepreneurial intention of medical students; a population rarely studied. The findings outline a better idea to both researchers and policy makers on the impact of sociodemographic factors on entrepreneurial intention of medical students in Malaysian context. Despite the scientific rigor followed, the authors would like to acknowledge some limitations. This study relied on the findings from a single medical school utilizing a cross sectional survey design which limits the generalizability of the results. It is recommended for future researchers to conduct similar studies on a larger population of medical students across regions to help validate the results. A qualitative study to explore in-depth on how gender and marital status affects entrepreneurial intention of medical students in Malaysian context is recommended.

## CONCLUSION

Medical students in Malaysia possess moderately high entrepreneurial intention. Integration of entrepreneurial courses into the medical curriculum, organising innovation contests and interactions with successful entrepreneurs could help tap their entrepreneurial intention to strengthen self-employment among doctors. Non-economic factors like gender and marital status proved to be stronger influencers on entrepreneurial intention than economic factors. High entrepreneurial behaviour among the youth is the dream of every country as it stimulates economic activity. Understanding these factors may help policy makers to provide favourable environment to motivate medical students to take up entrepreneurship and contribute to national economy.

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