

ASSOCIATION OF CAREER CHOICE AND MOTIVATION WITH ACADEMIC PERFORMANCE

Zeelaf Shahid¹, Kiran Fatima², Faiza Siddiqui³, Ghazala Panhwar³

Assistant Professor, Medical Education Jinnah Medical & Dental College¹ Assistant Professor, Medical Education Bahawalpur Medical College, Bahawalpur² Assistant Professor, Medical Education Liaquat College of Medicine & Dentistry³ Associate Professor, Biochemistry Bahawalpur Medical College, Bahawalpur³

ABSTRACT

Objectives: To determine an association of students' career choices with academic performance during the undergraduate years and to identify reasons and motivations of medical students for their career choices.

Methodology: Cross-sectional study was conducted from March-2021 till May-2021 at Yusra Medical College, Islamabad. The target population were approached by convenience sampling technique from 1st to final year MBBS students. The validated questionnaire of strength of motivation for medical school (SMMS) and reasons for career choice was used. Academic performance was assessed by previous results. The data was entered in SPSS version 23. Pearson's correlation was used to determine an association between career choices and motivations. A $p < 0.05$ at 95% confidence interval (CI) was considered significant.

Result: From the total 502 students, the most preferred choices were the desire to help (87.1%), personal satisfaction (79.5%), and interest in the subject (74.1%). Moderate to low level of motivation was reported by most of the students. Personal satisfaction ($p=0.028$) and shortage of doctors ($p=0.001$) showed a significant association. A weak relationship was found between reasons of career choice and academic performance ($p=0.182$) and between motivation and academic performance $p = (0.584)$. The association found between career choice and motivation with academic performance was non-significant.

Conclusion:

It was inferred that most common reason to enter in medical profession was the desire to help people, personal satisfaction and interests in the field. Moreover, the lack of doctors in society as the motivation for becoming healthcare providers shows the maturity in the students. Furthermore; the medical students' academic performances are mostly independent of the reasons and motivations for choosing the career. This evidence could guide the medical educationists for future research.

Key words: Academic performance, Medical profession, Medical students' motivation, Undergraduate medical students.

INTRODUCTION

The process of career choice is a complex cognitive exercise for students to select their career path. It is an extensive mental process depends upon the self-interest and sometimes fulfilling the wishes of family.¹

In healthcare, globally, one of the important concerns is the increasing dissatisfaction for medical professionals.² The intention behind entering in medical school keeps the medical students motivated & attuned to become successful physician despite of various challenges.³ Career path of physicians is long and intricate and academic performance is related to the metacognitive learning strategies, self-efficacy and learning related emotions.⁴ The prerequisite of future doctor include extensive training and keep them abreast with the technological innovations and treatment options.⁴ In medical training, student experiences long study hours, strenuous electives/rotations, progressive stress to compete, multiple examinations, financial constraints, hostel issues, inability to cope, un attentive family and private life and often

dissatisfaction with education standards. Despite these challenges, huge numbers of candidates apply for admission every year.⁵

There are various reasons why students are applying in medical schools every year. Primary is the zeal and motivation to become a doctor and secondary are the lateral pressures of family, friends, prestige, considering “important others” phenomenon or son of blacksmith would pre appointed as blacksmith.¹ Hence son of doctor would predestine as doctor. Motivation is a psychological trait that makes a person strive for a goal without giving up.⁶ Decrease efficiency results from the lack of career motivation in learning.⁷ In medical profession; the drive to become successful physician plays a significant role; thus direct the medical students towards the selection of speciality after graduation. According to the study conducted in Latin America by Torres et al in 2018³; it was intended to find the relationship of motivation with academic performance from 10 Latin American countries among 4290 medical students and revealed that student having good high school grades had lack of social/altruist motivation and enhanced social/altruist motivation was found among male students with positive vocational test.³

On the other hand in National case control study from Pakistan in 2021⁸ disclosed that students opt for the medical profession upon their own choice mostly in private sector. Thus accepting parents wish, thinking biology subject easier than mathematics and passion were most common among male students; on the other hand female students had a fallacy that medicine is an easy career path.⁸

The increased flow of high school students towards medical colleges introduced the new criteria of admission process based on academic scores, cognitive ability, and other characteristics such as motivation and attitude. Thereby, the selection of right applicant for the right career is the need of time. To observe the reasons for selecting appropriate applicant for medical colleges was indeed the rationale of this study. However, it is unclear how these admission criteria may correlate with the students’ academic achievements during the medical & dental school years and control the burnout.^{9,10} Hence; this study was aimed to identify the reasons and motivations of medical students for their career choices and to determine an association of students’ career choices with academic performance during the undergraduate years.

METHODOLOGY:

It was a cross-sectional study conducted from March-2021 till May-2021 at Yusra Medical College, Islamabad. The target population were approached by convenience sampling technique from 1st to final year MBBS students. The sample size was calculated with the help of standard formula of sample size calculation ($N = \frac{Z^2 * P * (1-P)}{d^2}$) by keeping intended population as 110 students in per year as $n=550$. The calculated sample size was $n=227$. To get the significant results and keeping in mind the wastage of 20%; the sample was augmented as 502. This study was executed after the approval acquired from Ethics Review Committee of Yusra Medical and Dental College, Islamabad.

The study tool comprised of three sections. Section one was for demographic details such as age, gender, year of study and previous results (high school results and pre-prof results). The students’ academic performance was separately noted from the college records of the annual examinations. The section two was a validated tool of career choice⁵ had eight items. The response was recorded as yes or no. This tool was used by the permission of author.⁵ Last question was open-ended for giving any additional reasons other than the choices mentioned. The third section was about to measure the motivation level for starting and tracking the career of medical school; for which Strength of Motivation for Medical School (SMMS)¹⁰ questionnaires was used. The SMMS encompassed sixteen items having positive relationship and negative relationship (counter indicative)

with motivation. The responses of SMMS tool was recorded on five point Likert scale of 1-5 (strongly disagree to strongly agree). The minimum and maximum scores were 16 and 89 respectively. The higher the score, the greater the strength of students' motivation was recorded. The level of motivation is divided into three categories: low, moderate, and high, based on scores obtained.

The data was collected by informing the students through notice one day prior to execute the study. The students from each year were separately brought together in a classroom setting. Informed consent was obtained from every participant after providing them the rationale of the study by PI. Anonymity and confidentiality of data was assured by coding of questionnaires. Included students were from first year to final year medical students irrespective of age, gender, previous results (high school results and pre-prof results).

The data was entered on SPSS version 23. Descriptive analysis of career choice was performed. Chi square was calculated to assess the differences in career choice reasons, motivation level by gender and years. Regression analysis was performed between career choice and marks (academic score) and between motivation and marks. Finally, the Pearson coefficient of correlation was applied to determine the association of career choice and strength of motivation as independent variables and marks (academic score/performance) as the dependent variable. A $p < 0.05$ at 95% confidence interval (CI) was considered as statistically significant.

Results

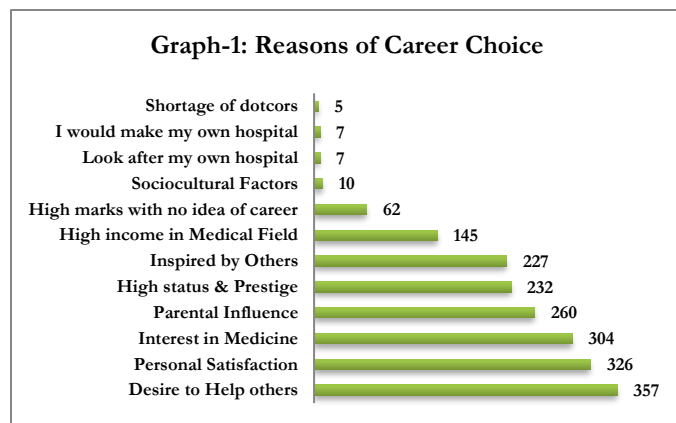
Total n=502 questionnaires were distributed from which n=410 forms were completed in all aspects; hence were included in final analysis. Thus the response rate was 81.6%. There were total n=257 (63%) were females and n=153 (37%) were males; with female to male ratio of 1.65:1. Total n=379 (92.4%) students had clear the previous exams. Upon inquiring regarding the reasons for career choice; majority n=357 (87.1%) had the desire to help others; n=326 (79.5%) had personal satisfaction; n=304 (74.1%) had interests in the medical subjects and n=260 (63.4%) had parental influence from first to final years of students. (Graph-1)

Low motivation scores were observed in n=130 (31.7%) students, and moderate motivation score was detected among n=280 (68.3%) students. While calculating the association of reasons of career choice with level of motivation, even though majority of (87.1%) respondents have selected the response of desire to help others, but statistically significant association was found for personal satisfaction and shortage of doctors at the p-values of (0.028 and 0.001) respectively. (Table-1)

Regression analysis predicted a weak ($p=0.182$) or no relationship between career choice and academic performance (Graph-2), and similarly, a very weak relationship ($p=0.584$) between motivation and marks were observed (Graph-3). The coefficient of correlation depicted no association or very weak association between career choice and motivation with academic performance in a private medical college. (Table- 2)

DISCUSSION

The reasons for career choice and medical students' motivation level were correlated with their academic performance from first to final year of medical students in this study. Personal satisfaction' and 'shortage of doctors' respectively showed highly significant association with motivation (Tab-1). According



to the study conducted by Dastgerdi et al¹¹ with Iranian medical and dental students revealed that the reason for personal satisfaction drives both self-realization and professional recognition. The shortage of doctors is probably significant because of financial security and uncertainties of employment.¹⁰

Majority (87.1%) of students responded for “Desire to help others” reason to select the medicine profession and it was analogous with study conducted in Georgia, USA¹² and proposed diverse reasons for the career choice in medicine including strong desire to help people suffering were responded most frequently by students. Moreover, similar to this study, students chose to have a pivotal role in patient care. These results are congruent with a study from Finland in 2015¹³ which reported an interesting fact that over the last 20 years, “interest in helping people” remains to be the main reason despite the evident changes in healthcare and society.¹³ It can be speculated that desire to help came out to be the biggest reason because humanistic nature of medicine is usually the primary motivator to become physicians. The medical profession is considered as the best ways a person can relieve the suffering of people, both physically and mentally, with a valuable relationship between doctor and patient which only comes with practicing medicine.¹⁴

The second most common reason for choosing the medical profession in this study was “personal satisfaction”. This finding was consistent with the findings of other studies^{10,15}, and reported personal interests to be the dominating reason behind the student entering in medical profession.

A significant number of participants (63%)

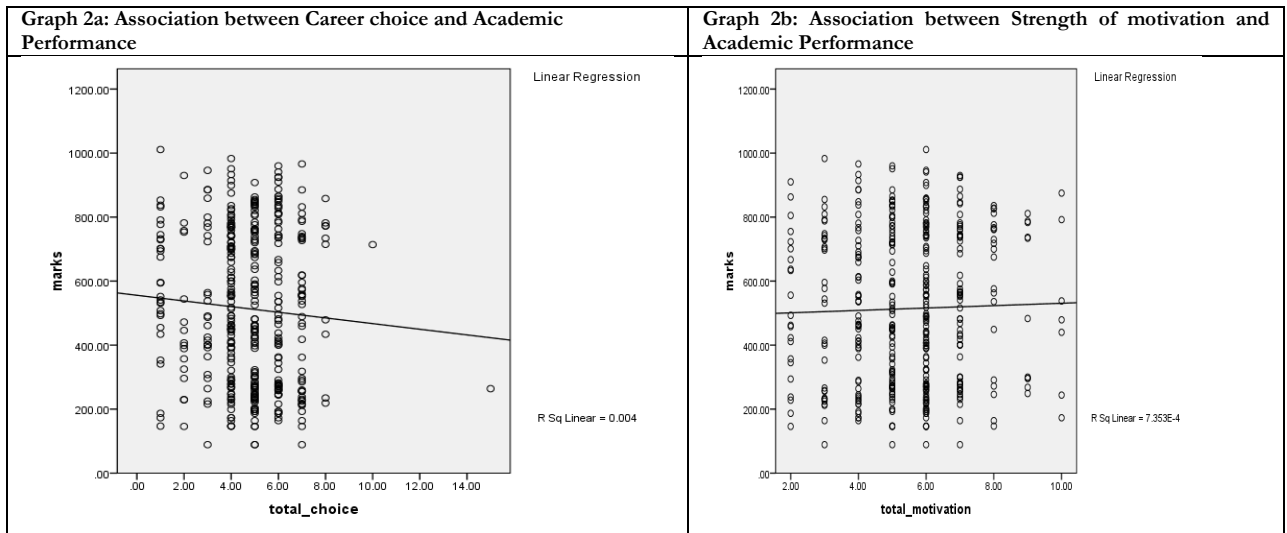
in this study chose “parental influence” as the main reason for career choice (Tab-1). This finding was further validated by the study among Asian medical students and disclosed that students were more influenced by familial and parental factors as compared to European students to select the career pathway.¹⁶ This results were in contrast, to another study conducted in Poland and reported around 61.8% of students had chosen medical career themselves without any parental or family pressure.¹⁷

Furthermore, this study revealed that 56.6% of students’ selected the medical profession because of “high status and prestige”, 55.4% choose “inspired by others” while 35.4% picked “high income” (Tab-1). It was observed that 41.2% male medical students were cautious for financial security while 56.4% females were

Reasons of Career Choice	Response	Motivation Level		P-Value
		Low n (%)	Moderate n(%)	
Parental Influence	Yes	87 (66.9)	173 (61.8)	0.315
	No	43 (33.1)	107 (38.2)	
Desire to Help Others	Yes	109 (83.9)	249 (88.9)	0.116
	No	21 (16.2)	31 (11.1)	
Interest in Medical Subjects	Yes	94 (72.3)	210 (75)	0.562
	No	36 (27.7)	70 (25)	
Inspired by Others	Yes	68 (52.3)	159 (56.8)	0.396
	No	62 (47.7)	121 (43.2)	
High Income in Medical Profession	Yes	48 (36.9)	97 (34.6)	0.653
	No	82 (63.1)	183 (65.4)	
Personal Satisfaction	Yes	95 (73.1)	231 (82.5)	0.028
	No	35 (26.9)	49 (17.5)	
High Status and Prestige	Yes	73 (56.2)	159 (56.8)	0.904
	No	57 (43.8)	121 (43.8)	
High Marks with No Idea of Career	Yes	22 (16.9)	40 (14.3)	0.488
	No	108 (83.1)	240 (85.7)	
I would make my own hospital	Yes	1 (0.8)	6 (2.1)	0.318
	No	129 (99.2)	274 (97.9)	
Shortage of Doctors	Yes	5 (3.8)	0	0.001
	No	125 (96.2)	280 (100)	
Socio-cultural facts	Yes	2 (1.5)	8 (2.9)	0.421
	No	128 (98.5)	272 (97.1)	
Look after my own hospital	Yes	1 (0.8)	6 (2.1)	0.318
	No	129 (99.2)	274 (97.9)	
Total		130 (31.7%)	280 (68.2%)	410

more inspired by a medical role model. It can be due to the societal norms in this region males are responsible for bread and butter for families and females are usually financially supported by their guardians.

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The shortage of doctors was selected as a reason for choosing the career by only 3.8% of medical students. This was a significant finding of this study in association with motivation (Tab-1). It can be due to the lack of physicians in the community and perpetually attracts the public towards medical school due to financial burdens, doubts for getting a residency, job insecurities and future progress in career.¹⁷

The result of this study revealed that approximately 15.1% of students chose the medical profession because of “High marks with no idea of career”. Total 55.3% students were inspired by others; which is higher than the other study of Goel S et al in 2018; in this study only few students selected socio-cultural factors such as inspired from the television programs to select medicine as a career.¹⁸

	Pearson correlation	P-Value
Career Choice	-0.06	0.182
Strength of motivation	0.027	0.584

It was found that 68% of students showed moderate and 32% showed a low level of motivation. None amongst the study participants showed strong motivation. The motivation level should be high as it is a noble profession.¹⁸

Another significant observation found was that the choices made by undergraduates were consistent from first to final year students. In contrast, Geol et al.¹⁸ in 2018, conducted a study in which students were highly motivated when they joined medical college, but with the passage of time their motivation level came to the point where they just wanted to pass the exams. They suggested the reasons could be reduced incentives or lack of interest for those who have entered the profession influenced by others. It can be due to the study challenges. It can be compared contextually such as motivation level can be high at the time to clear the entrance examination in single or multiple attempts. Consequently many students are bewildered when they got admitted in medical schools and finally get burnout because of a lack of understanding and interest in medical profession.¹⁹

A weak relationship was found between career choice and academic performance (Tab-2). Therefore, fair admission framework can be introduced to select the right applicant for right career by accreditation bodies.²⁰ Wouters and colleagues⁹ reported contrast to the result of this study and showed that different cognitive and non-cognitive factors show a relationship with academic success. Further it revealed that academic factors

such as school and pre-medical scores strongly correlate with academic success and non-academic factors also predict academic success or failure.^{7,8} It can be due to the study conducted in a private medical college with students who may not have a competitive interest in medicine. Another study provides evidence for this study's findings that weak or no relationship between motivation and academic performance was reported in 2014 among Greek medical students.²¹ On the contrary, in 2018 a research was conducted in Shiraz Medical University found a significant and positive association between motivation and academic performance.¹⁶

It is recommended that further studies can be conducted to relate motivation with personality, and learning style.⁷ The ultimate aim of Medical Education is to prepare the skilled, knowledgeable and updated force of healthcare professionals who can serve the humanity above all self-interest and develop the expertise with the innovative techniques to treat the ailments of society. To produce the competent physicians is the challenge of the undergraduate curricula.²²

The frequent changes in the admission criteria of accreditation body such as Pakistan Medical Commission/Pakistan Medical & Dental College can affect the reasons of career choices to enter in medical profession and perhaps the right applicant may not get the write career choice to become the competent future physicians.

Conclusion:

It was inferred that most common reason to enter in medical profession was the desire to help people, personal satisfaction and interests in the field. In addition, the parental influence seems to play a role in students' career choices, which is expected in a family-oriented society. Moreover, the lack of doctors in society as the motivation for becoming healthcare providers shows the maturity in the students. Furthermore; the medical students' academic performances are mostly independent of the reasons and motivations for choosing the career. This evidence could guide the medical educationists for future research.

Conflicts of Interest

There is no conflict of interest. The person who signed ethical review statement is also co-author of the same manuscript.

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