

Effects of Schooling and Parental Education on Student's Achievement in Medical Entrance Test

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ABSTRACT

OBJECTIVE: To evaluate the effect of parent's education and better schooling in achievement of medical entrance exam.

DESIGN: Descriptive

SETTING: Department of Anatomy, Liaquat University of Medical and Health Sciences, Jamshoro.

METHOD: This study was conducted on first year MBBS students admitted in Batch 2015-2016 at Liaquat University of Medical and Health Sciences Jamshoro. Total 340 students were included in this study. A questionnaire is used for data collection which was filled by students after verbal consent.

RESULTS: Out of total 340 students, 314 filled the questionnaire. Among 314 students 111 (35%) are males and 203 (65%) are female students. Eighty percent (80%) male and eighty five percent (85%) female students had their early education from private schools of high standard while only 20% male and 15% female students had their education from government/ public schools. Regarding parental education, female students has 100% fathers and 89% educated mothers, while for male students 97% fathers and 69% mothers found educated. Overall 90% parents who were educated.

CONCLUSION: Although there may several factors, however better schooling and parental education is most powerful factor to influence success rate of children pre medical entrance exam.

KEY WORDS: Parental Education, Private School, Medical entrance exam.

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INTRODUCTION

Nowadays selection in medical university/college become a big deal, out of about 5500 students only 350 are selected leading to panic in so many students and their parents. There are various reasons for choosing medicine as profession such as; students own wish, parental pressure, no idea of career, status symbol etc. Since 2001 National testing services (NTS) is conducting entry test for selection in public medical colleges / universities throughout Pakistan.¹

Scope of higher education is necessary to meet the requirement of this time. Literacy rate is best denominator of social development of a society. We are being citizens of a developing country, has lowest literacy rate (55%) as reported by UNESCO in year 2015. Various studies have suggested that different parameters like socioeconomic status, parental education and premedical grades effects students' achievement status in various entrances examinations for higher studies. Born and brought up impacts a lot on individual personality. It has been well documented that family plays a meaningful role in child academic

performance and development.^{2,3}

Education is defined as the process of facilitating learning, or the acquisition of knowledge. People pursue education to satisfy innate curiosity, interest in a specific subject skill or for overall personal development. By education one can overcome handicaps, achieve greater equality, acquiring wealth and status. Education is often perceived as a place where children can develop according to their unique needs and potentials. Every country reserve separate budget for education according to their needs and resources for provision of education. Pakistan is spending only 2 % of its GNP on education. Quality education is a big task which seems to be not fulfilled by the public sector alone. Therefore in rapidly growing population of developing countries like us active participation of private sector is helpful and mandatory. Many research studies have been conducted to compare the various aspects of public and private schools globally. Results of many studies reports that average student performance is better in private than public schools probably due to teaching in small groups with more

teaching aids versus public schools.^{4,5} Parent educational status is a predictor of stable socioeconomic status. It is noted that most middle class mothers have a good educational background and it is invested in their children's educational success in the form of self-confidence and participation. A high level of education among the parents also allows the children to have more opportunities to develop motivation and educational aspirations. Majority of the literature on parent's education pertains to the direct positive influence on achievement.^{6,7}

Second important factors on which students achievement depends after educated parents is the students own education. Parent's remain doubtful in most instances that whether they let their child to public / private school as both have their own pros and cons. There are many important factors which make private school as first choice like small group teaching, modern teaching aids, English medium, highly trained and qualified teachers while public sector seems to be deprived of these. Although the fee structure of private schools is much more than public school but because of the future benefits most parents want to invest money for the sake of their child's carrier.

Many studies regarding these parameters were conducted internationally, only few on single parameter like grades in premedical exams were conducted in our country but no such study is designed in our setup to evaluate that better schooling and parental education effecting efficacy of students in achievement of medical entrance examination in best of our knowledge.

METHODOLOGY

This study includes all the students of first year MBBS. The participation in this study was voluntary. They were informed that confidentiality was guaranteed and data would be strictly kept anonymous. Written informed consent was obtained and the participants were asked to fill out the questionnaire. Data was entered and analyzed on SPSS statistical package version 21.

RESULTS

A total of 340 students were admitted in first year MBBS in batch 2015/16 in Liaquat University of Medical and Health Sciences. Out of 340 students 314 filled the questionnaire. Among 314 students 111 (35%) are male and 203(65%) are female students. Observations made during study are shown in tables. Early education of male and female students from Government / private school is shown in (Table I); showing 80% male and 85% female students had their early education from private schools of high

standard while only 20% male and 15% female had their education from government / public schools.

Table II shows parental educational status 100% fathers and 89% mothers of female students were found educated whereas in male students 97% fathers and 69% mothers found educated. These make a total of 90% parents who were educated. Majority of parents were having bachelor degrees in which mostly are MBBS doctors. With a little difference in percentage after bachelors, mostly parents have masters and intermediate degrees.

Table III is showing relationship between different variables by applying Pearson correlation. Dependent variable was medical entry test. Independent variable is one that influences the dependent variable in either positive or negative way. The independent variable was the type of schooling public or private and parental education. There is a significant and positive relationship between private school and entry test while non-significant and positive with Government school. There is a significant and positive relationship between male parent education and female parent education and entry test.

The Coefficient shows how much times dependent variable change by the change in 1 unit of independent variable. By 1 unit increase in private school the Medical entry test score will increase 0.331 times there is Significant and direct relationship between private school and Medical entry test score. By 1 unit increase in Government school the Medical entry test score will decrease -0.221 times, there is non- Significant and inverse relationship between Government school and Medical entry test score. By 1 unit increase in Male parent/ Fathers education the Medical entry test score will increase .493 times there is Significant and direct relationship between Male parent education and Medical entry test score. By 1 unit increase in female parent education the Medical entry test score will increase .618 times there is Significant and direct relationship between Female parents/ Mother's education and Medical entry test score.

In Table V Model summary showing no autocorrelation by applying Durbin – Watson statistic, which is 1.874. The range (1.8-2.00) is good it means no- autocorrelation, (below 1.8) means less autocorrelation and above (2.1) mean high autocorrelation.

TABLE I: SCHOOLING OF STUDENTS (n =314)

School/College	Male	Female
Private	89 (80%)	173 (85%)
Government	22(20%)	30 (15%)
Sub Total	111	203
Total	314	

TABLE II: EDUCATION STATUS OF PARENTS (FATHER AND MOTHER)

Education	Female students		Male students		%
	Father	Mother	Father	Mother	
Primary	06	15	05	07	33 (6%)
Secondary	01	10	01	09	21(3.6%)
Matriculation	18	35	07	14	74 (13%)
Intermediate	30	39	24	22	115(20%)
Bachelor	88	52	41	18	199(35%)
Masters	60	30	30	07	127 (22%)
	203(100%)	181(89%)	108(97%)	77(69%)	569(90%)

TABLE III: CORRELATIONS

		Entry test	Private School	Government School	Male Parent	Female Parent
Entry Test	Pearson Correlation	1	.229	.684	.477	.225
	Sig. (2-tailed)	-	.711	.203	.279	.628
	N	7	5	5	7	7
Private School	Pearson Correlation	.684	1	.485	-.378	.800
	Sig. (2-tailed)	.011	-	.408	.530	.104
	N	5	5	5	5	5
Government School	Pearson Correlation	.229	.485	1	.619	.849
	Sig. (2-tailed)	.203	.408	-	.266	.069
	N	5	5	5	5	5
Male Parent	Pearson Correlation	.477	-.378	.619	1	-.253
	Sig. (2-tailed)	.049	.530	.266		.585
	N	7	5	5	7	7
Female Parent	Pearson Correlation	.503	.800	.849	-.253	1
	Sig. (2-tailed)	.018	.104	.069	.585	-
	N	7	5	5	7	7

(p = 0.05)

TABLE IV: COEFFICIENTS

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.338	4.061		-.576	.023
	Private School	.331	1.820	.221	2.524	.041
	Government School	-.221	2.756	-.131	1.325	.075
	Male Parent	.493	2.233	.314	3.228	.036
	Female Parent	.618	.561	.644	2.758	.013

a. Dependent Variable: Medical entry test

TABLE V: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.480 ^a	.391	.214	12.544	1.874

a. Predictors: (Constant), female parent, government school, private school, male parent

b. Dependent Variable: Medical entry test

DISCUSSION

This study investigated the influence of parent's education and students schooling on their achievement in premedical entrance exam. The results confirmed that parental education influence academic performance of the student significantly which is also evident worldwide. Educated parents provide good facilities, conducive environment and favorable attitude to learning motivation. Parents who are relatively higher in levels of education tend to transmit to their children more culture of the academics they acquired than parents who are not highly educated. Our result is consistent with Campbell CM and Khata MJ et al study which indicated that students who reported higher parental education levels tended to have higher average score.⁸⁻¹⁰

More educated parents are assumed to create environment that facilitate learning. Parents with a high level of education are capable of providing a learning environment that is specifically structured towards promoting cognitive abilities. High achievement students comes from homes with better educated parents and more favorable reading habits. Other studies also revealed a significant difference between the attitudes of students whose fathers and mothers had diverse education. Standard diploma or degree holding parents show positive attitude towards Science.¹¹

Studies report that between 65% and 74% of the medical students have parents with an academic background. Another study reported that 40% of the students had one parent and 25% had both parents with academic background. In this study 100% fathers and 89% mothers of female students were found educated whereas in male students 97% fathers and 69% mothers found educated. These make a total of 90% parents who were educated which is significantly higher.^{12,13}

The second parameter of this study was role of better schooling in students achievement is also significantly proved in this study which shows 80% male and 85% female students despite of whether they belongs from rural or urban areas prefer private school of standard. Only 20% males and 15% females of public schools get through medical entrance test. Students who work hard having parental and coaching support even of public school may achieve but their number is very low as compared with students of private schools. Our results are supported by many studies which

demonstrated academic ability is a good indicator of success at medical school while others have shown that there is only a modest correlation between prior academic achievements and medical school success.¹⁴⁻¹⁶

CONCLUSION

It is strongly suggested that achievement in medical or any other professional entrance exam is not a task of two years of intermediate or GCE A level but it is through study of all 12 years. Mostly successful students belongs to educated parents especially mothers and having better early education which form their strong base.

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REFERENCES

1. Marley J, Carman I. Selecting medical students: a case report for change. *Med Educ.*1999; 33 (6):455-9.
2. Archivist Online [Internet] Lahore, Pakistan. Literacy Rate of Education in Pakistan 2016. Available from: <http://www.archivistonline.pk/literacy-rate-in-pakistan/>
3. Ghuntla T ejas P, Mehta Hemant B, Gokhale Prandaya A, Shaha Chinmay J. A study of socio economic and parental background of first year medical students in medical college Bhavnagar. *IJRP* 2012;3(9):253-5.
4. Jimenez E. Lockheed M.E. (1995). The World Bank. Washington D.C. Public and Private Secondary Education in Developing Countries. A Comparative Study. Available from: http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079967208/public_private_secondary.pdf
5. Iqbal M. Public versus Private Secondary Schools: A Qualitative Comparison. *JRRE.*2012; 6 (2):40-49.
6. Tucker C.M, Harris Y.R, Brady B.A, Herman K.C. The association of selected parent behaviors with the academic achievement of African American children and Caucasian children. *Child Study Journal.*1996; 26(4):253-77.

7. Reay D. Education and cultural capital: The implications of changing trends in education policies. *Cultural Trends*.2004; 13(2):73-86.
8. Education Matters, (2005). Statistics Canada. Student achievement in mathematics- the roles of attitudes, perceptions and family background. Available from: <http://www.statcan.gc.ca/pub/81-004-x/2005001/7836-eng.htm>.
9. U.S. Department of Education. Office of Educational Research and Improvement. National Center for Education Statistics. NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance, NCES 2000–469, by J.R. Campbell, C.M. Hombro, and J. Mazzeo. Washington, DC: 2000.
10. Khata MJ, Machtmes K and Kungu K (2011). Does parental education status matter on the student's achievement in science? *International Conference on Social science and humanity IPEDR* (5):2011, IACSIT press, Singapore
11. Blackmon, T.C. & Drum, M.W. A child's Self-Esteem and their Parents' Education. *Psychological Reports* 1997; 80:114.
12. Simmenroth-Nayda A, Görlich Y. Medical school admission test: advantages for students whose parents are medical doctors? *BMC Med Edu*.2015;15:8.
13. Donnon T, Paolucci EO, Violato C. The predictive validity of the MCAT for medical school performance and medical school licensing examinations: a meta-analysis of the published research. *Acad Med* 2007; 82(1):100-6.
14. Kreiter CD, Kreiter Y. A validity generalization perspective on the ability of undergraduate GPA and the medical school admission test to predict important outcomes. *Teach Learn Med* 2007; 19 (2):95-100.
15. Mitchell KJ. Traditional predictors of performance in medical school. *Acad Med* 1990; 65(3):149-58.
16. Wilkinson D, Zhang J, Byrne GJ, Luke H, Ozolins IZ, Parker MH, et al. Medical school selection criteria and the prediction of academic performance. *Med J Aust*2008; 188(6):349-54.



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