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Student Attributes and Outcome of a Screening Test (The Common Entrance Test for Medical Education) - A Descriptive Analysis

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Abstract: ***Introduction: It is always a dream for every student at a certain stage of education to enter a professional college. But only a few are able to do it and this due to reasons is quite understandable. The present study attempts to describe these factors as one of its kind. Objectives: To describe and understand the factors that increase once chances of having a positive outcome after a screening test. Methods: it was a descriptive study using a detailed schedule to be filled by the students presenting for admission at the medical college. Results: The selected students were mostly from rural areas and predominantly from joint families. Most of the students had their parents educated beyond primary level and mostly employed in private sector. Selected students were mostly from private schools; most had attended coaching institutions and predominantly followed a mixed approach for studies using books by Indian Authors. Conclusion: A proper preparation keeping in mind certain specific factors increase ones chances of making it to the merit list and thus admission in a professional institution.***

Keywords: Screening Test, Medical Education

1. Introduction

Education of young adults is a complex process but access to a good quality education at this level is a near sure means of a better life[1] even though a contrary view also exists. As the students progress on this path of education they face many challenges which invariably test their determination and ability to learn and express them. A screening test for education is a challenge that most of the students have to go through during their tenure and that too in some at a very young age. The success in a screening test even though not an end in itself is not a random event. The procedure of admission to medical Colleges involves a screening test as the aspirants are many times more than the actual slots available for admission, known by many names. Literally every other student at this stage nurtures the dream of studying medicine but only a few are able to realise this dream for obvious reasons. The probability for a student to qualify a screening test seems to be very small but in presence of certain attributes in the candidate the chances of getting through the test increase substantially. It is intriguing to know whether success in such screen tests can be predicted. Some background student factors have been shown to predict test performance[2]. This previous research has also provided evidence of links between socio-economic characteristics of students and their educational attainment, for example, measures of socio-economic status, parents' educational background, family structure and income have been shown to be important predictors of attainment at secondary level. Such factors have also been found to be strongly related to measures of prior attainment at entry to school [3]. For this we need to identify and understand factors that have a bearing on the outcome of such tests. In order to understand this complex phenomenon we should first start with a descriptive approach to delineate attributes that seem to determine outcome in this case. The next logical step would be conduct a comparative study involving those students who could not qualify the given screening test to assess as to which student attributes can predict or have the maximum influence on outcome of the screening test. The present study was one such attempt to embark on a difficult journey to comprehend this intricate process. The results of this kind of analysis can be of great help for students preparing for such tests so that they could modify their approach to study and preparation for such tests. We decided to conduct a descriptive analysis of attributes that had made success possible for students who got admitted in our College.

2. Material and Methods

It was a descriptive study involving students who got admitted in Government Medical College Srinagar in the years 2018 and 2019. A detailed format was developed to collect information from students. The format included items related to demography, schooling, private coaching, study material, study approach and other test related attributes. The students reporting for admission to our college were explained the study procedure and requested to participate in the study. Those willing to participate were given the format and after explaining items were allowed to sit comfortably in a separate room to fill the format. They were allowed to contact their parents in case they were not sure about any information like income of the family. Students who refused to participate either due to time constraints or other urgencies were given the option for returning after few days to fill the format. A verbal permission was also sought from the participants for cross checking their school and screening test related performances from the concerned department. The data collected was entered into MS excel and analysed to express it into descriptive statistics.

3. Results

A total of 310 students were included in the study belonging to 2018 and 2119 admissions at Govt Medical College Srinagar.

Table 1: Demographic Characteristics of the Study Participants (N=310)

Variable	n(%)
Age Mean(SD)	18.1(1.01)
Residence	
Urban	86(27.3)
Rural	217(71.6)
Gender	148(47.7)
Male	162(52.2)
Female	
Father Education	
1. Professional qualification with technical degrees or diplomas	45(14.6)
2. Post-graduation (non-technical incl. Ph.D)	6(1.9)
3. Graduation	8(2.6)
4. 10th class pass but <Graduation	77(25.0)
5. Primary pass but <10th	122(39.7)
6. <Primary but attended school for at least one year	28(9.1)
7. Just literate but no schooling	12(3.9)
8. Illiterate	9(2.9)
Father Occupation	
1. Service in central/State/Public undertakings or Owner of a company or self employed	24(7.8)
2. Service in Private sector or independent business employing 2-20 persons	237(77.9)
3. Service at shops, home, transport, own cultivation of land	4(1.3)
4. Self employed e.g. shops, Rehdies or petty business with income >5000	15(4.9)
5. Self employed with income <500 (labourer, house wife)	24(7.8)
Mother Education	
1. Professional qualification with technical degrees or diplomas	33(10.7)
2. Post-graduation (non-technical incl. Ph.D)	8(2.5)
3. Graduation	33(10.7)
4. 10th class pass but <Graduation	43(13.9)
5. Primary pass but <10th	121(39.2)
6. <Primary but attended school for at least one year	52(16.8)
7. Just literate but no schooling	11(3.5)
8. Illiterate	7(2.2)
Mother Occupation	
1. Service in central/State/Public undertakings or Owner of a company or self employed	73(23.7)
2. Service in Private sector or independent business employing 2-20 persons	49(15.9)
3. Service at shops, home, transport, own cultivation of land	9(2.9)
4. Self employed e.g. shops, Rehdies or petty business with income >5000	11(3.5)
5. Self employed with income <500 (laborer, house wife)	166(53.8)
Family income	41465.28
Family Size	(2500-400000)
Type of Family	5.8(2.1)
Nuclear	250(81.6)
Joint	56(18.3

Table 2: Schooling Characteristics of Study Participants (N=310)

Variable	n(%)
Place of Schooling up to 10th grade	
Nearby Government School	47(15.2)
Nearby Private School	234(75.7)
Any Other	28(9.0)
Place of Schooling during 11th and 12th Grade	
A local institution	193(62.8)
Away from home but within state	82(26.7)
Out of state	32(10.4)
Coaching during 11th and 12 Grade	
Yes	233(75.8)
No	74(24.1)
Performance during 12 Grade	
>90%	158(51.1)
75-89%	132(42.7)
60-74%	17(5.5)
<60%	2(.64)

Table 3: Study for National Eligibility cum Entrance Test related characteristics (N=310)

Variable	*n (%)*
Coaching for NEET	
Yes	228(74.0)
No	80(25.9)
Place of Coaching	
Capital	219(71.5)
Town	59(19.2)
Others	28(9.15)
Hours of Study	
< 3 hrs	17(5.4)
3-6 Hrs	130(41.9)
> 6 Hrs	163(52.5)
Timetable Used	
Yes	202(65.1)
No	108(34.8)
Material Used	
Indian Authors	221(71.7)
Foreign Authors	2(.64)
Both Sources were used	85(27.5)
Study approach	

Only objectives studied	17(5.4)
First exhaustive then objective	63(20.3)
A continuous mixed approach used	230(74.1)
Internet Used	
Yes	93(30.0)
No	217(70.0)

Table 4: National Eligibility Cum Entrance Test related characteristics (N=310)

Variable	n (%)
Order of the NEET	
First	145(46.9)
Second	145(46.9)
Third	19(6.14)
Sleep on the Day	
i) < Average	104(33.7)
ii) > Average	28(9.09)
iii) Usual sleep	176(57.1)
Feeling After leaving Hall	
i) Confident	130(41.9)
ii) Less confident	100(32.2)
iii) Confused	80(25.8)
Expectations after the test	
i) Confident about high rank	48(15.5)
ii) Confident about selection	210(68.1)
iii) Not sure about outcome	50(16.2)

4. Discussion

The outcome of a screening test depends on a range of factors both in and around the participants and importantly on cut offs used by the selection agency as per their availability of slots for admission. The present study was conducted among students presenting for admission at Government Medical College Srinagar. We observed that more than 70% of participants belonged to rural areas as per rural urban distribution of population in India[4]. The other demographic and socioeconomic variables observed were as follows: nearly 40% of participants had their parents educated up to primary level with only 15.5% and 13.2% of participants having their fathers and mothers education up to postgraduate level and beyond respectively. For occupation more than 75% of participants had their fathers employed in private sector while as more than half of the participants had their mothers working as homemakers **(Table 1)**. The average family size was found to be 5.8 with more than four fifths of participants coming from joint families **(Table 1)**. As for schooling characteristics the participants reporting for admission had predominantly studied in nearby private schools. The quality of education in government run schools has always been below expectation thus accounting for the observation. Nearly two thirds of participants had had their schooling during secondary level in a local institution while as the rest had had it away from home. The trend of sending children away from home for education has remained same for many years now. Only less than one fourth of participants reported having not attended any coaching institution on long term basis or not at all. More than 90% of participants reported having secured more than 75% marks in higher secondary school examination **(Table 2)**. This observation strengthens the notion that having a good score in higher secondary examination improves ones chances of a better score in a screening test also, although the pattern of examination is quite different from the format of a medical entrance test.

While studying characteristics related to medical entrance test we observed that nearly four fifths of participants had attended one or the other coaching institute for preparation with more than 2/3rd attending one in the capital city of Srinagar itself. More than half of the participants reported a daily study duration of more than six hours with only a small percentage reporting less than 3 hours of study. A time table for study was reportedly followed by two thirds of participants. It was observed participants had predominantly followed books for preparation by Indian authors. This might be probably because books by Indian authors contain material as per the syllabus prescribed by the testing agencies and are easy to understand compared to foreign authors. As for the study approach was concerned a continuous mixed approach where in a student studies the concepts in detail followed by review of single response questions related to the topic. Less than one third of participants reported to have used the internet any time during the preparation for the screening test **(Table 3)**. During the study it was observed that less than half the participants had qualified the entry test on first attempt only with the rest 46.9% on second attempt and 6.4% on third attempt. More than half of the participants reported having had usual sleep on the day of the screening test where as less than one third reported having less than average sleep. 41.9% of participants reported having been confident of selection on leaving the examination venue, with 32.2% being less confident while as the rest reported having been confused at this time **(Table 4)**. Overall 15.5% of participants reported of being confidant about a high rank, more than 2/3rd reported being sure about selection and the rest reported being confused about the outcome of the test, though eventually this group also made it to the selection list. During our literature search we were unable to locate similar studies to compare our results with there we could only describe our findings and suggest reasons for some of the observation based on our understanding. Studies of this nature need to be repeated involving greater number of students from many colleges and also employing analytical approaches to delineate variables that could predict outcome in a screening test with reasonable accuracy.

5. Conclusion

The findings of our study suggest that these screening tests are quite scalable for students of varied backgrounds and also that if preparations are made keeping certain factors in mind the chances of making it to the selection list and ultimately admission in a medical college can be substantially improved.

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Conflict of Interest: None declared

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