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Performance of Students in Combined Entrance Examination (CEE) for Admission to Medical Colleges in Assam: A Case Study

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Abstract:

This paper is based on the investigator's direct personal interview on candidates of Combined Entrance Examination (CEE)-2013 who were coming for counseling into admission for MBBS/BDS Course in the colleges of Assam. Here an attempt has been made to study the performance of the candidates of CEE-2013 by applying some descriptive statistical tools with respect to various socio economic and demographic factors. So far as student's performance is concerned, the study reveals that the factors like no. of attempts in CEE, reservation, mothers occupation and medium of education at class X have impact on CEE performance whereas the role of qualifying examination and coaching are not accountable. No sex discrimination has been noticed in getting seats in medical colleges of Assam.

Keywords: Combined Entrance Examination (CEE), student's performance, socioeconomic and demographic factors

1. Introduction

An entrance examination is an examination that many educational institutions use to select students for admission. Placement and Prediction are two main purpose of an entrance examination. Post-independence India has different systems of education whose syllabi and examination process are governed by both central and state-based statutory boards. Apart from the secondary and higher secondary examinations, various universities have their own admission and qualification criteria. These may be organized and conducted by the universities themselves, by an examination board related to an affiliated group of universities. There has been some attempt at standardization at the central level with common examinations like the CAT and AIEEE now commonly recognized by universities.

Based on literature search, the investigators felt that there were various socioeconomic and demographic factors which may have impact on the performance of students in any entrance examination. Some of the literatures have been highlighted here.

Education and language are well connected and are inspirable component of each other. The former is not possible without the latter. The medium of instruction makes the learning pattern simple or complex. According to Normark [2013] English medium school, with a focus on the English language and a challenging academic environment, intercultural atmosphere created by the cultural diversity of the teachers and students can be the door to the world that the students of his study seem so eager to step out into. However, Rathore and Pancholi [2013] observed that Student-Teachers of Gujrati medium college are more competent in teaching and on all the other professional commitment than the English medium.

Similarly, Sex discrimination in education system is a very important issue. In a report of training and Youth Affairs Commonwealth of Australia [2000] it is mentioned that average girl is performing slightly better than the average boy. More females than the males enter higher education and more males than females proceed to Technical and Further education.

Education is the life line for efficient and stable working of human society. Cultural heritage and values are transmitted from one generation to the next through education. So family income, parental education, occupation and social status are directly related with academic achievements of their sibling. Kanyongo et al.[2006]used regression analysis to establish a relationship between home environment and reading achievement. They observed that in poorer countries of Zimbabwe decreased financial capital is disadvantageous to children's reading achievements. Students living with parents tend to do better than those who do not live with their parents. According to Memon et al.[2010] parents with high socioeconomic status often have more success in preparing their young children for school because they typically have access to a wide range of resources to promote and support status often lack the financial, social and educational support that characterize families with high socioeconomic status. Parental Motivation and Expectation are two very important things for students. Nayebzadeh et al.[2011] noted that student's educational performance with their motivation and expectation has a positive and direct relationship i.e, more the motivation and expectation of students better is their educational performance. Thus parental involvement in children's education has a powerful impact on their achievements.

Especially mother's involvement plays an important role in her children's education. Donker [1995] observed that if the mother has a laboring job outside the home it has a negative effect on her children's education. Also, Bettinger et al. [2013] observed that parental care is not easily substituted. Increase in female labour force participation in Europe and the USA, may affect child development. On the contrary, Ara [2012] argued that Socioeconomic status of educated working mother was directly link with highest score of their children.

Now a day's different types of coaching are available for various entrance examinations and it is highly demandable among the candidates. Bangert-Drowns et al.[1983] found that coaching improves students score on achievements and aptitude test in case of a few students only. Again Sharma and Sidhu [2011] observed Adolescents who have joined coaching institutes for admission in professional courses experience self-inflicted stress, parent inflicted stress and peer inflicted stress.

Keeping all these points in mind a case study has been carried out on the candidates of Combined Entrance Examination (CEE)-2013, who are coming for counseling for Admission to M.B.B.S. course in the medical colleges of Assam. The Combined Entrance Examination (CEE) for admission to MBBS/BDS/BE/B.Tech. Course in the colleges of states of Assam has been conducting by Dibrugarh University for last eight years. In 2013 the entrance examination CEE was held as per the NCERT syllabus adopted by Assam Higher Secondary Education Council on 18th and 19th May, 2013. This paper is based on an attempt of the investigators to study the impact of some socioeconomic and demographic factors on the performance of students who are coming for counseling for Admission to M.B.B.S. course in the medical colleges of Assam in the year 2013.

1.1. Objectives

The specific objectives of this work are

1. To compare the distribution of seats in Medical Colleges of Assam as per statutory reservation and without reservation on the basis of CEE performance.
2. To study the distribution of seats in Medical Colleges of Assam with respect to sex, number of attempts etc.
3. To classify the candidates called for counseling on the basis of board/council, medium of education at class X level etc.
4. To compare the students performance with respect to sex, fathers/mothers occupation etc.
5. To study the impact of HS and HSLC performance and coaching for CEE on CEE performance.

2. Methodology

The present study is based on the data of the candidates of CEE coming for counseling for admission into the Medical colleges of Assam in the year 2013. The counseling of candidates for admission into MBBS course was held during 8th July to 14th July, 2013. In this study, the data on CEE scores of the candidates along with other variables as per our requirement have been collected by the investigators through direct personal interview. Obviously, the data used in our present study is primary in nature. So far as our present study is concerned, our universe is the candidates called for counseling. Hence, it is a complete enumeration. The statistical analysis has been carried out using descriptive statistical tools such as measures of central tendency, measures of dispersion, correlation analysis etc.

3. Results

The total numbers of 666 candidates appeared in the counselling can be distributed as in the table 1. But there were only 503 seats for admission into medical colleges of Assam. The distribution of seats as per statutory reservation is shown in table 2. If there is no reservation then the distribution of seats as per CEE-2013 performance is as shown in table 3. The number of candidates actually who have got seats in Medical Colleges of Assam in the year 2013 can be distributed with respect to different categories as shown in table 4.

The number of candidates actually who have got seats in Medical Colleges of Assam in the year 2013 with respect to sex are tabulated in table 5.

It is observed that a candidate can appear more than one time if age permits. The data have been compiled on the basis of number of times candidates appearing for CEE verses different categories. The same is presented in table 6.

It is observed that the candidates are from different educational background of board/council at HSLC and HS level. The data have been compiled on the basis of different board/council verses different categories and the same is presented in table 7 and table 8

It is observed that the candidates are studied in different medium of schools. However, in HS level very few students are belonging to other than English medium. So the candidates appeared before the counseling board are distributed with respect to their medium of education at class X level only and the same is tabulated in table 9.

The table 10 the distribution of the candidates appeared before the counseling board w.r.t. the performance in CEE versus sex.

The performance in CEE vs. father's and mother's occupation are tabulated in table 11 and table 12.

There were 516 candidates who take coaching for CEE and 150 candidates who do not take any coaching for CEE. The average performance of both the categories along with standard deviations are presented in table 13.

To study the association between CEE performance and performance in qualifying examinations the Karl Pearson's correlation coefficient has been employed as discussed in the methodology. Using Ms Excel the Karl Pearson's correlation coefficients between HS and CEE performance and HSLC and CEE performance are found to be 0.3754 and 0.3149 respectively.

4. Discussion

Whether to have a reservation/quota system or not is still a debatable question in India. Indian Constitution has a law for the same and according to this it had been started with a very good objective of uplifting the socially backward society to give them equal opportunities. But in a report of Planning Commission Govt. of India [2007] it is mentioned that inspite of the presence of reservation systems educational performance of SC/ST students are not so good. For improving the level of participation of ST/SC students in admission to Higher Learning Institutions, emphasis should be laid on primary and secondary level education and basics should be strong and awareness among ST/SC category should be increased through different programmes by showing examples of those who have been benefited by reservation. In this context, the finding of our study is not exception to the above observations. In this study by comparing the Reservation and Non-reservation in distribution of seats it is observed that if there is no reservation, then 69.98% seats will occupy by general caste candidates, 22.46% seats will occupy by OBC candidates and only 6.56%, 0.59% and 0.39% seats will occupy by SC, ST(P) and ST(H) candidates respectively. But in case of actual distribution of seats i.e., as per the statutory reservation in CEE general candidates got 46.91% seats, OBC candidates got 28.23% seats, and SC, ST(P), ST(H) candidates got 9.54%, 10.13%, 5.16% seats respectively. Here we see that only a few number of SC/ST students are able to take seat without reservation. So it justifies necessity of reservation.

By studying the distribution of seats with respect to sex we find that there are 50.89% male and 49.11% female. It is encouraging. Again by studying the performance of candidates vs number of attempts of CEE we find that 29.88% candidates get seat on 1st attempt, 55.26% candidates get seat on 2nd attempt, 12.91% candidates get seat on 3rd attempt and 1.95% candidates get seat on 4th and above attempts. Here, it is observed that in second attempt students are more successful. To classify the candidates on the Basis of Board/Council in HSLC level we find that 59.46% candidates are from SEBA, 37.39% are from CBSE, and 3.15% are from other boards. Here the number of candidates from SEBA is highest. However, the number of students appearing for high school leaving examination from SEBA is more than twice than the CBSE and other boards. To classify the candidates on the Basis of Board/Council in HS level, we find that 55.26% candidates are from AHSEC, 43.54% are from CBSE, and 1.20% is from other boards. Here the number of candidates from AHSEC is the highest. Here, although percentage is low in CBSE, its performance is better than the council as lesser number of candidates appear from central board. By studying the medium of education at class X level we find that 16.07% candidates are from Assamese medium, 80.63% candidates are from English medium and 3.30% are from other medium schools. Hence, English medium candidates dominate Medical seats. By studying the performance of candidates with respect to sex we find that 88.73% students get CEE score 150 and above, where 47.29% are male and 41.44% are female. Here, the male candidates performance is slightly better as compared to female. Again 11.26% get CEE score 120-149, where 5.85% are male and 5.40% are female. This is almost equal for both male and female.

Parental care at home plays an important role on their children's education. It provides children to a secure and stable environment, intellectual stimulations, parent-child discussion, good models of constructive social and educational values and high aspirations relating to parental fulfillment and good citizenship. The extent and form of parental involvement in their children's educational performance is strongly influenced by family social class, maternal level of education, maternal psycho-social health and maternal care for her children. By studying the performance of candidates with respect to parent's occupation from table 11 and table 12 it is observed that majority of medical seats are occupied by the students whose mothers were homemakers.

Now a day's most of the students as well as their parents have been giving emphasis on coaching for entrance examinations. They spend a huge amount of money for this. In this study, from table 13 it is clear that the coaching has no impact on performance of students in CEE. The average score of both the groups, who do not take coaching for CEE and who take coaching for CEE in qualifying examination are almost same. Interestingly, there is no difference between the average score of these two groups in CEE along with almost the same value of measures of dispersion for each group. Finally, from the values of the correlation coefficient between HS and CEE performance; and HSLC and CEE performance it is observed that there is very low degree of correlation between each pair of variables.

5. Conclusion

This study has shown differences between the pattern of qualifying examination and Combined Entrance Examination for admission to Medical colleges of Assam. It is observed that majority of the candidates are able to qualify the entrance examination in their second attempt. It means simultaneous preparation for qualifying examination and entrance examination is possible in case of a small group of very brilliant students only. Although most of the students as well as their guardians have been giving emphasis on coaching, no role of coaching is observed in this study. Another two important aspects of this study are the medium of instruction at class X level and parents occupation. This study establishes poor performance of Assamese medium schools. Again so far as parent's occupation is concerned role of homemakers is noteworthy. It observed that 66.36% of mothers of the candidates called for CEE counseling are homemakers followed by teachers. So far as reservation is concerned to represent different categories of students in medical education, the study necessitates reservation. Otherwise, some of the categories may be deprived of medical education. But, it may not the way to develop a particular community. The process of development should be started from the grass root level.

6. Tables

Categories	No. of candidates
Merit(up to CEE rank 500)*	478
OBC	46
SC	38
ST(P)	68
ST(H)	36
Total	666

Table 1: Distribution of Candidates w.r.t. Different Categories

* Here the 1st category also includes OBC, SC, ST (P) and ST (H) candidates who were on top 500 CEE ranks.

Category	No. of Candidates	Percentage
General Merit	317	63%
OBC/MOBC	76	15%
SC	35	7%
ST(P)	50	10%
ST(H)	25	5%
Total	503	100%

Table 2: The Distribution of Seats as per Statutory Reservation

Category	No. of Candidates	Percentage
General Caste	352	69.98% (> 63%)
OBC/MOBC	113	22.46% (>15%)
SC	33	6.56% (< 7%)
ST(P)	3	0.59% (<10%)
ST(H)	2	0.39% (<5%)
Total	503	100%

Table 3: Distribution of Seats of CEE-2013 without Reservation

Category	No. of Candidates	Percentage
General Caste	236	46.91% (<63%)
OBC/MOBC	142	28.23% (>15%)
SC	48	9.54% (>7%)
ST(P)	51	10.13% (> 10%)
ST(H)	26	5.16% (>5%)
Total	503	100%

Table 4: Actual Distribution of Seats with respect to Different Categories

Category \ Sex	Male	Female	Total
General Caste	127(25.24%)	109(21.66%)	236(46.91%)
OBC	71(14.11%)	71(14.11%)	142(28.23%)
SC	20(3.97%)	28(5.56%)	48(9.54%)
ST(P)	24(4.77%)	27(5.36%)	51(10.13%)
ST(H)	14(2.78%)	12(2.38%)	26(5.16%)
Total	256(50.89%)	247(49.11%)	503(100%)

Table 5: Distribution of Seats with Respect to Sex

Attempts \ Category	1	2	3	4 and above	Total
Merit	148(22.22%)	267(40.09%)	54(8.10%)	9(1.35%)	478(71.77%)
OBC	12(1.80%)	21(3.15%)	10(1.50%)	3(.45%)	46(6.90%)
SC	8(1.20%)	23(3.45%)	7(1.05%)	0(0%)	38(5.70%)
ST(P)	17(2.55%)	44(6.66%)	7(1.05%)	0(0%)	68(10.21%)
ST(H)	14(2.10%)	13(1.95%)	8(1.20%)	1(.15%)	36(5.40%)
Total	199(29.88%)	368(55.26%)	86(12.91%)	13(1.95%)	666(100%)

Table 6: Numbers of Attempts Vs Different Categories:

Board/Council Category	SEBA	CBSE	Other	Total
Merit	272(40.48%)	188(28.22%)	18(2.70%)	478(71.77%)
OBC	34(5.10%)	12(1.80%)	0(0%)	46(6.90%)
SC	28(4.20%)	10(1.50%)	0(0%)	38(5.70%)
ST(P)	35(5.25%)	32(4.80%)	1(.15%)	68(10.21%)
ST(H)	27(4.05%)	7(1.05%)	2(.30%)	36(5.40%)
Total	396(59.46%)	249(37.39%)	21(3.15%)	666(100%)

Table 7: Number of Candidates of Different Board/Council vs. Different Categories in HSLC

Board/council Category	ASHEC	CBSE	Other	Total
Merit	255(38.28%)	218(32.73%)	5(.75%)	478(71.77%)
OBC	31(4.65%)	15(2.25%)	0(0%)	46(6.90%)
SC	24(3.60%)	14(2.10%)	0(0%)	38(5.70%)
ST(P)	32(4.80%)	35(5.25%)	1(.15%)	68(10.21%)
ST(H)	26(3.90%)	8(1.20%)	2(.30%)	36(5.40%)
Total	368(55.26%)	290(43.54%)	8(1.20%)	666(100%)

Table 8: Number of Candidates of Different Board/Council vs. Different Categories in HS

Medium Category	Assamese	English	Other	Total
Merit	79(11.86%)	382(57.35%)	17(2.55%)	478(71.77%)
OBC	13(1.95%)	32(4.80%)	1(.15%)	46(6.90%)
SC	7(1.05%)	28(4.20%)	3(.45%)	38(5.70%)
ST(P)	7(1.05%)	60(9.00%)	1(.15%)	68(10.21%)
ST(H)	1(.15%)	35(5.25%)	0(0%)	36(5.40%)
Total	107(16.07%)	537(80.63%)	22(3.30%)	666(100%)

Table 9: Medium of Education at Class X of the Candidates vs. Different Categories

Sex CEE score	Male	Female	Total
150 and above	315(47.29%)	276(41.44%)	591(88.73%)
120-149	39(5.85%)	36(5.40%)	75(11.26%)
Total	354(53.15%)	312(46.84%)	666(100%)

Table 10: Performance in CEE vs. Sex

CEE score	Fathers Occupation					Total
	Teacher	Business	Doctor & Engineer	cultivator	Others	
150 and above	123(18.46%)	97(14.56%)	94(14.11%)	15(2.25%)	262(39.33%)	591(88.73%)
120-149	13(1.95%)	6(0.90%)	6(0.90%)	12(1.80%)	38(5.70%)	75(11.26%)
Total	136(20.41%)	103(15.46%)	100(15.02%)	27(4.05%)	300(45.04%)	666(100%)

Table 11: Performance in CEE vs. Father's Occupation:

CEE score	Mothers Occupation			Total
	Teacher	Others	Homemakers	
150 and above	118(17.71%)	84(12.61%)	389(58.40%)	591(88.73%)
120-149	10(1.50%)	12(1.80%)	53(7.95%)	75(11.26%)
Total	228(43.24%)	96(14.41%)	442(66.36%)	666(100%)

Table 12: Performance in CEE vs. Mother's Occupation:

Category Examinations	No Coaching		Coaching	
	Mean Score	Standard Deviation	Mean Score	Standard Deviation
HS	80.24	11.46	80.68	8.24
CEE	58.40	7.34	58.90	7.03

Table 13: Performance in HS and CEE vs. Coaching for CEE:

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