



# Mapping Students Choices with Academic Performance in Higher Education with Reference to an Arts and Science College, India

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## Abstract

*To ensure mobility and competitiveness, students in higher education have to opt for more elective courses beyond their specialization. The choice in academics is questioned, as is whether it is 100 percent implemented. This raises another question about the academic performance of the students pushed into a course. In this context, the study attempts to answer the following research question: whether choice affects the academic performance of both undergraduate and postgraduate students. A 75-year-established arts and sciences college with two decades of experience in a choice-based credit system was considered for the study. Primary data was collected through a structured questionnaire. Out of the total 351 final-year postgraduate students, 290 (83%) responded to the survey. From the total of 1388 final-year undergraduate students, 1122 (81%) of them responded to the survey. The Chi square test was applied to find the association between the elective choice and academic performance. The results reveal that there was no association between course preference and passing the course on the first attempt among the postgraduate students. Beyond their interests, they were dedicated to finishing their courses, signifying their academic responsibility. However, when undergraduate students are pushed into a course against their preference, they struggle to become comfortable with it and pass it on the first attempt.*

**Keywords:** academic choice, elective choice, motivation, performance, push and pull factors

The framework of higher educational programmes is structured with the inclusion of electives. Students who specialise in one major must also learn skills like cultural linguistics, professionalism and devotion to human values to ensure mobility and competitiveness in the global labour market. The content of education stated in the curriculum is now not a rigid unit. The curriculum is flexible to match the needs and aspirations of the students by offering elective courses. These courses make up around 10%

of the overall curriculum. On the one hand, students are more interested and driven to learn when they select elective courses. Institutions, on the other hand, give more thought to the supply of subjects and their content. At the same time, it gives professors more incentive to think about fresh ideas, refresh knowledge and generally work hard to keep their subjects fascinating and updated to students. Elective courses has been proved to help students improve professionally and personally by combining



knowledge of a variety of areas through their involvement in designing curricula and enhancing their professional portfolios (Movchan and Zarishniak 2017).

Gambetta (1987) provided three theoretical approaches to educational choices that are applicable to social relevance. First, the structuralist perspective holds that people's behaviour is determined by outside forces that do not provide them much freedom of choice; as a result, individuals would just take whatever they could. The weaker version is more acceptable than the stronger version. Second, individual choices are not very important according to the pushed-from-behind perspective. The mechanism revolves around structural or economic causation. The agent's behaviour is the result of social or psychological factors that are opaque to their individual consciousness and influence their choice of action. The broad idea includes both conditioned responses to stimuli and unconscious behaviour. From customary conduct to assimilating social norms and limitations. The third approach, the pulled-from-the-front view, is based on the principle that people act decisively in accord with their intentions when they face with diverse options. It is intended that they will assess and select based on the anticipated long-term advantages of each course of action. People are drawn to the front rather than being propelled from behind.

Darwin (1977) compared graduates of conventional liberal arts programmes with those who participated in elective courses. The findings showed that graduates of Elective Studies and regular students had equal average credit completion rates. On the other hand, compared to typical liberal arts students, elective studies students completed courses in more departments and focused less on a single academic subject. When comparing students following traditional Liberal Arts programs to those pursuing elective studies, the results for academic success variables showed that the former had a slightly but not significantly lower total Grade Point Average at graduation.

Gabay et al. (2010) stated that choice in education helps to enhance the opportunity for

equality. In curricular choices, structural and social constraints were push factors, whereas choice was the pull factor. Students assess their options, the likelihood of failure, and the predicted utility received from successfully completing each step at each transition point. The degree that, upon completion, would improve the student's prospects for employment and further education was what was considered useful. The odds of not finishing the recommended course of study were referred to as risks. Risk has a positive correlation with subjective usefulness. Long-term utility and a short-term risk of failure were considered in the rational choice theory of education. Hedgers tried to combine both.

The goal of Yildiz et al. (2012) study was to identify student preferences for elective courses outside their field that would enhance their professional and personal growth. Examining the factors influencing these preferences, it was discovered that the students frequently used phrases such as "that will contribute to our professional development"; "personal development" and "areas of interest" were emphasised in art-based courses; "professional development and self-improvement" were emphasised in first aid and health-related courses; "teaching profession and personal development" was emphasised in psychology and communication skills courses; and "relaxation" and "self-improvement" were emphasised in sports-based courses. Academic attainment was positively impacted by students' capacity to select elective courses based on their needs and interests. It was determined that the elective courses influenced the students' opinions of their own efficacy in accordance with the range of their interests, desires, and abilities.

Ting and ChoiLee (2012), study resulted that without gender disparities, all students avoided enrolling in electives perceived difficult. Chaturapruek et al. (2021) recommended the viable area for intervention in issues with equity, career funnelling and college completion was presented for elective course consideration among students. In their study, Man et al. (2022) focused on integrating collaborative filtering technology into a college



course selection system to create a rating matrix based on student's evaluations of the courses they took by correlating the courses and the students. The programme could identify the traits, inclinations and interests of pupils and suggested an optimal pairing between student learning ability and course requirements.

### Research Problem

From the review of literature, it was obvious that a larger proportion of students select elective courses as per their own preferences but a considerable of them are pushed into a course, whatever may be the reasons. The question arised as what is the academic plight of them. Do they adapt, create interest and are they able to cope up orelse it becomes a reason for their low performance in academics. This kindled the question in implementation of the choice element in higher education in India. Thus, a micro level study on an arts and science college, which is a pioneer and has more than two-decade of experience in a choice-based credit system will be appropriate for the choice of study.

In this context the study attempted to answer the following research question whether choice affects the academic performance of the students.

### Significance of the Study

The choice of courses by the students reduces the risk of failure in the semester. Students become multifaceted learners as per their needs, interest and aptitudes. Students were capable of making unique intra-disciplinary and inter-disciplinary combinations. The facilitation of credit transfer makes education broad-based attaining global standards.

### Study Institution

The study insititution, was founded in 1948 as the first women's college in South India with the vission to transform women holistically by providing them with a well-rounded moral, social, and spiritual perspective. All academic programmes are regularly updated by the college, which creates a demanding curriculum. In the academic year 2001–2002, the college

implemented a learner-focused, Choice Based Credit System (CBCS) at the undergraduate level to allow a variety of dynamic and varied options, building on the 23 years of rich experience the college had accumulated under autonomy. Subsequently, in the academic year 2013–2014, the undergraduate programmes were placed under the Integrated Curricular Model following the successful completion of twelve years of CBCS. During the academic year 2005–2006, the Choice Based Credit System was introduced at the postgraduate level.

The goal was to offer updated education and allow students to choose their courses according to their career goals and skill levels.

The choice for the students apart from mandatory core courses since the 2013-2014 academic year is as follows.

**Table 1 Optional Courses for Students**

Year	<b>Undergraduate Programme</b>
I	Environmental Elective
II	Non-Major Electives (NME) -2
III	Interdisciplinary Major Course (IDM) -2
Year	<b>Postgraduate Programme</b>
	Elective
II	Elective

### Objectives

The specific objectives of the study were

1. to know the academic background and motivation of postgraduate and undergraduate students
2. to assess whether the students get their preferred optional courses
3. to examine the association between preference has an impact on their academic performance

### Methodology

#### Data Collection

The postgraduate and undergraduate programmes of the insititution are offered in two streams as aided and self-financed. Primary data for the academic year 2022–2023 was gathered from final-year undergraduate and postgraduate students during the months of January to March 2023. Structured questionnaires



were sent to final year students through google forms. Out of the total 351 final year postgraduate students 290 (83%) responded the survey. From the total of 1388 final year undergraduate students, 1122 (81%) of them responded the survey.

### Tools of Analysis

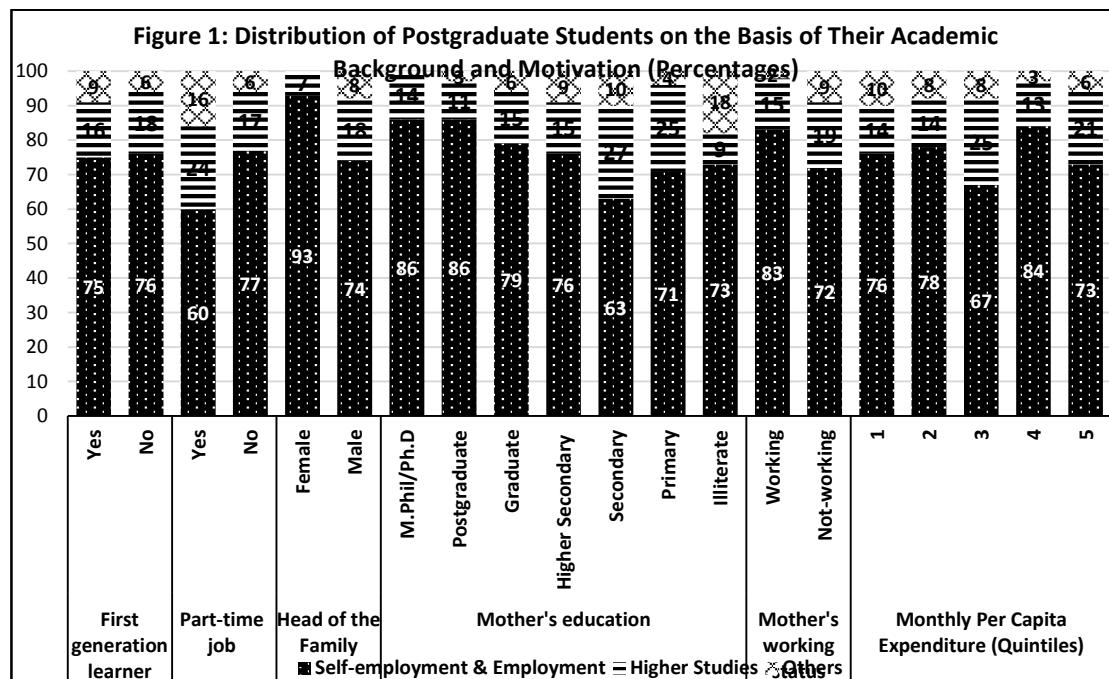
**Chi-square** is applied to find the association between

1. Plans after graduation and economic status
2. Preference for elective course and clearing the course in the first attempt at both the

undergraduate and postgraduate levels separately

### Academic Background and Motivation

The response of the students according to their plan after graduation was categorised into three groups. The students aspiring to become entrepreneurs, preparing for competitive jobs and seeking jobs were classified as 'Self-employment and Employment'. Ambitious students who wish to study further were classified as 'Higher Studies'. The options of marriage, the decision of parents and any other were combined and classified as 'Others'.



**Source: Primary data**

Figure 1 explains that three-fourth of the postgraduate respondents fall into the category of 'self-employment and employment'. In this group, only one student aspired to become an entrepreneur. This inferred that the number of postgraduates seeking employment was high. 17% wishing for 'higher studies' may further pursue research. The same tendency was observed among first-generation learners. One-fourth of the students involved in part-time job were inspired to do higher studies. This

emphasised that students who do part-time jobs for their economic needs strongly had the ambition of climbing a higher ladder in their career through education.

Female-headed families show a different pattern. 93% of female-headed postgraduate respondents were seeking for employment. It was supplemented by the fact of nil percent in the others category. This contributed to the concept that students from female headed families were exclusively focussed on their

careers. Student respondents with illiterate mothers had the highest share (18%) in the others category. In contrast, mothers distinctly educated above graduation had witnessed a push for their daughters towards employment, with a higher share of 86%. Student respondents with working mothers again registered the highest score of 83% in attitude towards employment.

Monthly per capita expenditure (MPCE) exhibited a mixed pattern in its focus on after-graduation proposals. Hence the Chi-square is applied to find the association between economic status and ambition after graduation. The quintile

classification of MPCE was grouped into three groups, as high, medium and low expenditure groups. The results were as follows.

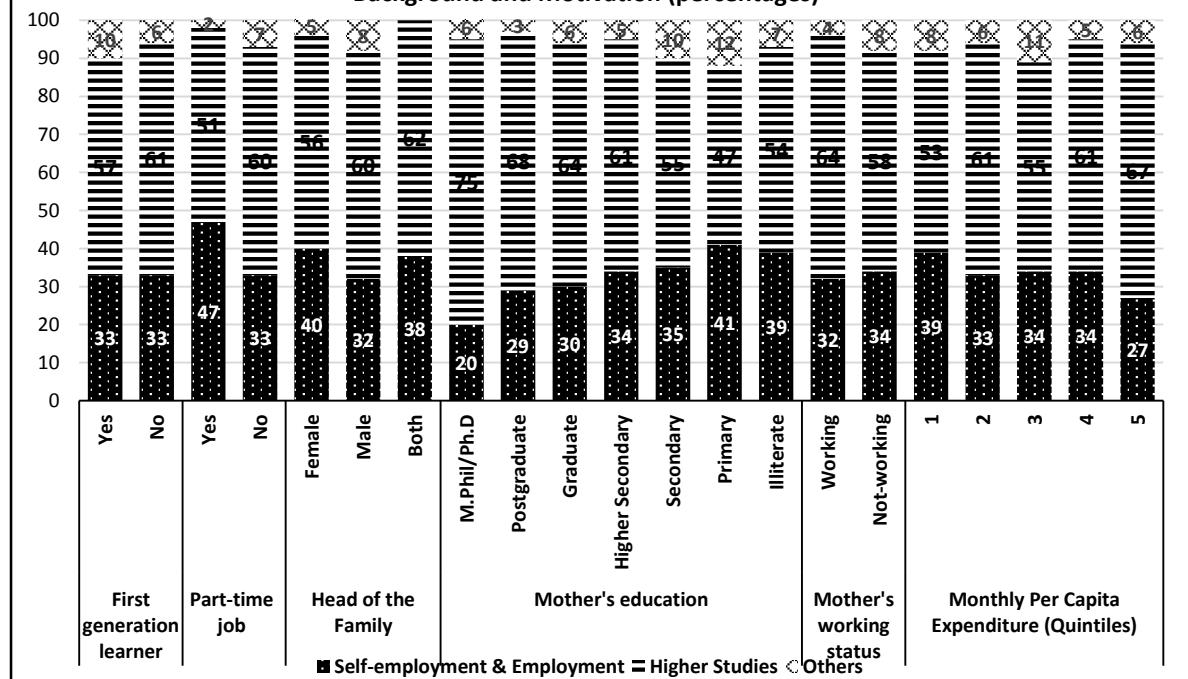
$H_0$ : There is no significant difference between economic status and plans after graduation

$H_a$ : There is significant difference between economic status and plans after graduation

$\chi^2 = 300.598$ ; Table value = 9.49

$\chi^2 >$  Table value, the alternate hypothesis is accepted. Economic status has an association with the plan after graduation.

**Figure 2: Distribution of Undergraduate Students on the Basis of Their Academic Background and Motivation (percentages)**



**Source: Primary data**

The total final year undergraduate respondents were 1122. A differential pattern was exhibited in Figure 2 compared to the previous table. Only one-third of the undergraduate respondents planned to seek employment and six of them aspired to become entrepreneurs. 60% of them preferred to go on to higher studies. First-generation learners showed a similar pattern. Students doing part-time jobs and planning for full-time employment were the highest

(47%). The respondents in the others category were the fewest (one student) in this group, compared to other groups. This implied the willingness of the students to share the economic responsibility of the family. It was pleased that there was equal focus on both an individual's passion and career opportunities, at a young age. Career prospects were also important in today's era of intense competition. Therefore, not only their major but also the optional elective course



they choose were crucial, because the versatility will provide the right direction for their academic purposes and professional lives as well. The heads of the family, both female and male depicted a similar pattern in planning of their wards after graduation.

As expected, a mother's education had a strong positive impact on the higher education of their daughters. Even illiterate and working mothers express the same trend. This again reminded of the words that mother is the mirror of the child and navigator of the family wheel. The student respondents with mother's qualification up to primary (12%) and secondary (10%) schooling and

the economically middle class (11%) had a double-digit in the others category.

Then, students and their families were determined to move above graduation leading to a career path and half of them directly set their careers. Not just the elite spend generously on education, but the middle-class families also spend their life-savings to educate their children. The background of students was not homogeneous but heterogeneous in nature.

#### **Students are Pushed or Pulled Towards the Elective Course**

Doing a course on the preference list is one way to pass the course in the first attempt.

**Table 2 Distribution of Postgraduate Students on the Basis of Elective Courses Registered and Cleared Across Semesters**

Preferred Course	Semester II			Semester III		
	Cleared the Course			Cleared the Course		
	Yes	No	Total	Yes	No	Total
Yes	247(98)	4(2)	251(100)	227(95)	5(5)	232(100)
No	38(97)	1(3)	39(100)	55(98)	3(2)	58(100)
Total	285(98)	5(2)	290(100)	282(97)	8(3)	290(100)

**Source:** Primary data

**Note:** Figures in parenthesis indicate row percentages

From Table 2, it was inferred that 13% and 20% of postgraduate respondents in semester II and III did not get their preferred course. They have chosen courses from the remaining available ones. Overall, the failures were two and three percent in semester II and III respectively. The impact of compulsorily joining a course was likely to have an effect on completing the course on the first attempt. It was vivid that not clearing the course in the not preferred column was negligible. It was empirically tested using Chi-square. The results were as follows.

$H_0$ : There is no significant difference between preference for and clearing the course

$H_a$ : There is significant difference between preference for and clearing the course

$$\chi^2 = 1.88; \text{ Table value} = 3.84$$

$$\chi^2 < \text{Table value}, H_0 \text{ is not rejected}$$

Therefore, the statistical insignificance implies that the course preference and passing the course on the first attempt were not related. This implied that

postgraduate students were academically responsible that besides their interests they were committed in completing their courses.

Table 3 reflected a reverse trend among the undergraduate students compared to the postgraduates detailed in the previous table. The percentage of students who did not get the desired course were 12, 24, 20, 21 and 24 in semesters II, III, IV, V and VI respectively. The percentage of failures in the first attempt among those compulsorily pushed was 12, 20, 21, 32 and 26 in semesters II, III, IV, V and VI respectively. Figure 3 proved an association between pushed from behind and clearing the course in the first attempt visually, with intensity less in semester II alone. In semester II, a common Environmental Electives course was offered by the Centre for Environmental Studies in several batches. Few departments offer discipline-specific environmental courses.



The statistical proof was attained by applying the Chi-square test and the results are depicted in the Table 3. For all the semesters in under graduation, the null hypothesis was rejected and the alternate

hypothesis was accepted. Henceforth, students pushed into a course find it difficult to adapt, familiarise with and equip themselves to the given unexpected course.

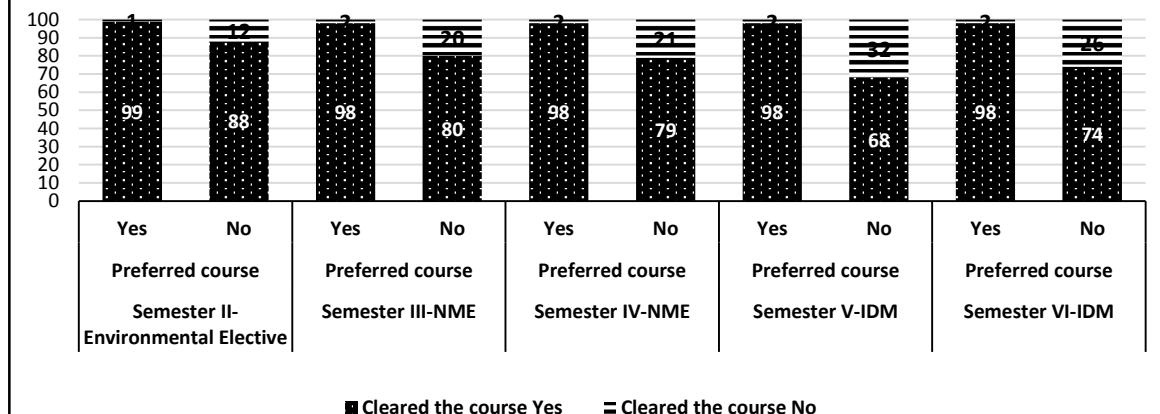
**Table 3 Distribution of Undergraduate Students on the Basis of Elective Course Registered and Clearing of the Course across Semesters**

Preferred course	Semester II-Environmental Elective			Semester III-NME			Semester IV-NME			Semester V-IDM			Semester VI-IDM		
	Cleared the course			Cleared the course			Cleared the course			Cleared the course			Cleared the course		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Yes	983 (99)	7 (1)	990	838 (98)	15 (2)	853	878 (98)	16 (2)	894	863 (98)	20 (2)	883	830 (98)	18 (2)	848
No	116 (88)	16 (12)	132	214 (80)	55 (20)	269	181 (79)	47 (21)	228	163 (68)	76 (32)	239	203 (74)	71 (26)	274
Total	1099 (98)	23 (2)	1122	1052 (94)	70 (6)	1122	1059 (94)	63 (6)	1122	1026 (91)	96 (9)	1122	1033 (92)	89 (8)	1122
	$\chi^2 = 10.97$ Table value = 3.84 $\chi^2 >$ Table value, $H_a$ accepted			$\chi^2 = 122.09$ Table value = 3.84 $\chi^2 >$ Table value, $H_a$ accepted			$\chi^2 = 121.47$ Table value = 3.84 $\chi^2 >$ Table value, $H_a$ accepted			$\chi^2 = 290.77$ Table value = 3.84 $\chi^2 >$ Table value, $H_a$ accepted			$\chi^2 = 160.48$ Table value = 3.84 $\chi^2 >$ Table value, $H_a$ accepted		

Source: Primary data

Note: Figures in parenthesis indicate row percentages

**Figure 3: Distribution of Students on the Basis of Getting the Preferred Optional Course and Clearing Them (UG)**





The results were in alignment with the study of Berlingieri et al. (2023), which found that 30% of German students did not enroll in their first-choice course of study. The discrepancy resulted from stringent entrance requirements in certain courses and less spatial mobility. Students who do not enroll in their desired courses are probably female, have poor high school grades, or have parents who do not hold a university degree or even a higher secondary certificate. Academic performance was measured by the probability of dropping out of the programme, graduating on time or exiting higher education entirely. According to the findings, pursuing one's chosen field of study lowers the likelihood change in field of study by 15%, increases graduation on time by 9% and decreases university dropout by 23%. These results indicated that, considering the large level of public investment, dropping out of the desired study program entails substantial costs for both the participating students and society at large.

Thus, correlation between preferred courses and first-time success in a course differs across the level of the programme. This implied that postgraduate students were committed to finishing their degrees, aside from their other interests. But when undergraduates were forced into a course, they found it challenging to adjust, become comfortable with and pass the course on the first attempt.

### Implications

- Though the proportion of students getting into not-preferred courses was less, measures could be taken to accommodate entire student's choices. The registration policy of 'First come, first served' could be altered particularly for undergraduates, without affecting the system.
- Women students are likely to face more socio-cultural obstacles in becoming standalone young women entrepreneurs. Hence, more awareness programme on orientation towards entrepreneurship, in addition to being backed by due support from incubation centres, are essential to be provided to the female youth of the nation.

### Conclusion

The intentional agent in the selection of an elective course, principally the pulling factors, results in the probability of success in the course. The effects of educational decisions and the degrees of freedom in choice are pathways to academic achievement. Though the educational decisions of young individuals are influenced by parent's education, family income, peer suggestions and so on, rather than the individual's own. The push factors or the limits in choice, are likely to be translated into their performances. The bounded rationality and the discrete choices accounting for personal preferences and aspirations must be the best fit among the portfolio of course lists, with the resultant of long-term academic enrichment and social relevance.

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