

AN ANALYTICAL INVESTIGATION INTO THE FACTORS INFLUENCING STUDENTS' CHOICE OF DISCIPLINE AT SECONDARY LEVEL

SUBMITTED BY

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Abstract

The choice of discipline among secondary-level students is a pivotal decision that shapes their academic and professional trajectories. This paper presents an analytical investigation into the multifaceted factors influencing students' selection of disciplines, drawing insights from various determinants including societal expectations, parental influence, teacher guidance, socioeconomic status, personal interests, peer pressure, career aspirations, regional and cultural factors, academic performance, and assessment. Through an examination of data and trends, it becomes evident that disparities exist in discipline choices across regions and socioeconomic backgrounds, underscoring the need for equitable access to resources and opportunities. Moreover, the implementation of the National Education Policy 2020 marks a significant shift towards flexibility and choice in education, aiming to empower students in designing their academic paths. However, challenges persist in achieving balanced distribution across disciplines, necessitating concerted efforts from educational institutions and policymakers to promote equity, inclusivity, and a supportive learning environment. By understanding and addressing the complex array of factors shaping students' discipline choices, stakeholders can work towards creating a more responsive and equitable educational system conducive to holistic development and societal needs.

Keywords: discipline, education, parental influence, socio-economic status.

Introduction

In the modern era where education is evolving to its extent, the choice of discipline plays a major role in framing the academic career of a person. Selecting a career holds significant implications for one's career path, personal growth and overall trajectory. The choice of discipline is a complex and multifaceted process. Some students decide it depending on their passion and interest while others decide based on the trend, family background or the subject their friends are opting for. If students do not obtain proper information regarding the relationship between courses of study, employment prerequisites, and career trajectories, they run the danger of making study decisions that are inappropriate for their talents (Duberley, Cohen, & Mallon, 2006). We will begin with the example of two countries, Japan and Turkey, to demonstrate how important the choices in the field of specialisation may be. Both countries were allies throughout World War II. Toprak (2006) provides an excellent examination of post-World War II growth in the two countries. Both countries were in similar economic and political situations at the end of World War II. The two countries recognised the importance of education in growth and worked to boost it. However, they had different priorities on their education policy agenda. To begin, we'd like to use the examples of two countries: Japan and Turkey. Turkish education highlighted literature, art, and music, among other things. At the same time, Japan promoted mathematics and technological engineering

education. The impact of their decisions can be seen in their economic and social standing in the world. Among disciplines at the undergraduate level, enrollment is highest in Arts (33.5%), followed by Science (15.5%), Commerce (13.9%) and Engineering & Technology (11.9%). Among streams at the postgraduate level, the maximum number of students are enrolled in Social Science (20.56%) followed by Science (14.83%) (Ministry of Education, 2021). In the Central Board student population, 49.91% of pupils were in the Science stream, while 16.31% of the class of 2022 were enrolled in the Arts (Barman, 2023).

Meaning of Discipline

The word "disciple," which is the origin of the word "discipline," is derived from the Latin word *discipulus*, which means "student." Most people mistakenly think that a disciple is a "follower" (perhaps due to the religious context), but in actuality, the word means "one who studies," not a "follower". The word "discipline" derives from the Latin word "disciplina," which means "instruction and training." It comes from the Latin word *discere*, which means "to learn" (Focus, 2022). The Oxford English Dictionary describes a discipline as "a branch of learning or knowledge." Disciplines include theoretical foundations, research and experimentation, expert groups, etc. An individual pursuing his studies in a particular area, for instance, not only develops a thorough comprehension of it but also conducts experiments or research. A person in this situation is regarded as specialising in the selected field. Discipline is a branch of academic study whereas a subject is a branch of knowledge. For example, psychology, sociology, anthropology, mathematics and philosophy are all disciplines. Disciplines typically include theoretical foundations, research and experimentation, expert groups, etc. An individual pursuing his studies in a particular area, for instance, not only develops a thorough comprehension of it but also conducts experiments or research. A person in this situation is regarded as specialising in the selected field. Discipline produces specialists and academics whereas subject provides overall knowledge about a particular field.

The Role of National Education Policy 2020

“Students will be given increased flexibility and choice of subjects to study, particularly in secondary school - including subjects in physical education, the arts and crafts, and vocational skills – so that they can design their paths of study and life plans. Holistic development and a wide choice of subjects and courses year to year will be the new distinguishing features of secondary school education. There will be no hard separation among ‘curricular’, ‘extracurricular’, or ‘co-curricular’, among ‘arts’, ‘humanities’, and ‘sciences’, or between ‘vocational’ or ‘academic’ streams. Subjects such as physical education, the arts and crafts, and vocational skills, in addition to science, humanities, and mathematics, will be incorporated throughout the school curriculum, with a consideration for what is interesting and safe at each age.” - New Education Policy 2020 stated. This new transformation in the education system will make the students liberal in a real sense. Now the students will not choose out of four streams viz Non-Medical, Medical, Commerce or Humanities but will make a new combination of their favourite subjects. Generally, the probability of the subject to be chosen by students should have equal probabilities among the students. However, the data states that the reality is far away from the expectations. This bias for the discipline choice is quite surprising. Students from different states of the same country have different disciplinary choices. It can be observed that the students from the southern region of the country prefer sciences. On the contrary, the students from the northern region prefer to choose humanities over science. The question is why don't the students from the South prefer to choose arts which cover philosophy, music, dance, psychology, sociology, history, geography etc.? And why don't the students of Northern states choose science subjects like physics, chemistry, biochemistry, zoology or botany? There could be various reasons which must be influencing the career choices among the students. The balance of career choice is necessary for the equal distribution of human resources.

Choice of Discipline at Secondary Level

The choice of discipline among students is a crucial decision that impacts their academic and professional lives. The guidance and support to students to bring the best out of them according to their interests and aspirations is a matter of concern. The role players in the disciplinary choices at the secondary level

should know the real factors and challenges a student faces at this turn of their life. Hence, it is important to study the determinants that affect the students' choice of discipline at the secondary level. The right choice of discipline will not only bring them forward but will help the nation use its human resources accurately. A wrong choice of discipline leads to the wastage of the number of man hours and the life of a person too.

Rationale of the Study

The study will try to explore and analyse the determinants of discipline choice among students at the secondary stages of their academics. When we think of the distribution of students to all the disciplines, we imagine it must be equal but the data of different boards shows a different picture. As it is being stated by Barman in the year 2023, the Central Board student population, 49.91% of pupils were in the Science stream, while 16.31% of the class of 2022 were enrolled in the Arts, and the rest chose other disciplines. So the state boards should also lie around the above data, but it is being observed that the data of the state board fluctuates from the Central boards.

Contrarily, according to a study by the Union Government, however, arts are the favoured alternative for their counterparts in West Bengal, Punjab, Haryana, Gujarat, and Jharkhand. The top five states where state board students most frequently chose the arts were Gujarat (81.55%), West Bengal (78.94%), Punjab (72.89%), Haryana (73.76%), and Rajasthan (71.23%). In the Northeast, Meghalaya (82.62%), Tripura (85.12%), and Nagaland (79.62%) are the most popular choices for Arts (Barman, 2023).

Among the top five states (apart from the Northeast), Andhra Pradesh (75.63%), Telangana (64.59%), Tamil Nadu (61.50%), Uttar Pradesh (57.13%), and Kerala (44.50%) were the most popular choices for Science (Barman, 2023). The states with the lowest science enrollment during the academic year 2021–2022 were West Bengal (13.42%), Punjab (13.71%), Haryana (15.63%), Gujarat (18.33%), and Jharkhand (22.91%) (Barman, 2023).

The above data is quite surprising that Punjab being a state having the most number of people engaged in agriculture is ignoring the agricultural science and sciences. Punjab is popularly known as the breadbasket which feeds the whole country. The students of the state should study sciences to make it more prosperous and study the challenges faced by the farmers and scientists. They should opt for botany and zoology to study the plants and animals, types of soils in the state and the ecosystem. Every person knows about his motherland more than anyone else. The ground reality is known to the one who has been observing it closely and regularly for years. Sciences not only teaches a person to study nature but also builds rationality and creativity among the students. Not only sciences but other disciplines like psychology, business and commerce are also among the less popular ones. The education system tries to create a balance among all the disciplines. Sociologists argued that this imbalance in the distribution of topics needed to be corrected to eliminate inequality. It is trying hard to promote the less opted subjects like mathematics and science. But, are they successful in doing so? Funds are being generated to build Science laboratories and math parks and get the best equipment for the laboratories. Various posts of School teachers of science are generated and are being filled to promote Sciences. The goals to maintain the balance are somewhere achieved by the Central Boards of education but the state boards are lagging.

The study will help schools modify their infrastructure, teaching approaches, resource allocation, and staff according to the discipline demand of the students and the factors affecting their choices. The study will help the policymakers to get a deeper understanding of the determinants of discipline choice at the secondary level and promote the less popular discipline to create balance and provide better manpower to the particular field. The results of the study will improve retention rates, academic performance and student satisfaction of the students. Students will benefit from identifying the factors that influence their decision-making at this crucial period. They won't make the wrong decision under the pressure of any determinant leading them in the wrong direction. The students will gain insights into their motivations, interests and aspirations to set realistic goals for their academic and professional journeys. This self-awareness will increase motivation, satisfaction, and success in their chosen fields. This study will help students from all backgrounds have equal opportunities and will maintain equality. The reason for the imbalance of discipline choice will be identified. This research will encourage future studies for the

creation of theories and policies to improve the dynamics of students' disciplinary choices at the secondary level.

Determinants of Choice of Discipline at the Secondary Level by the Students

Various factors affect the choice of discipline in higher studies for students at various levels of their academic journey. Such determinants are discussed following:

Role of Gender Differences in Discipline Choice among Students

Our society has predecided the duties and categorised various things and roles for males and females, and so do the subjects and professions. Different expectations about the social behaviour and academic success of males and females are derived from gender stereotypes. Teachers and parents expect girls to behave more subservient, hospitable, and protective than males do in social situations (Trusz, 2020). Tiedemann (2000) shows that students are significantly different from one another due to their mothers' and fathers' gender-biased expectations and the biases in their parents' perceptions that change how the children perceive their mathematical progress.

The parents and teachers frequently judge female students' future educational paths to be less important for female students than for male students, particularly in mathematics-oriented majors that are seen as being more masculine. Students may internalise these messages with a gender bias, form their gender identities, and ultimately lead to discrepancies between male and female academic pursuits. Additionally, the gender of the teachers can alter the indicated relationships (Trusz, 2020). Research indicates that girls often face stereotypes and biases that discourage them from pursuing science. Efforts to challenge and overcome these stereotypes can contribute to increasing girls' participation and interest in science. In the universities of the United States, Goyette and Mullen (2006) discovered that gender and race predict the pattern of students' choice between vocational and arts and science courses. It is believed that girls' comparative advantage in arts and humanities coursework may assist in explaining why they are less likely than males to choose majors in technical and scientific disciplines. On the other hand, a total enrolment, 55.5 Lakh students are enrolled in Science Stream, with female students (29.5 Lakh) outnumbering male students (26 Lakh) (Ministry of Education, 2021). For the guys, mathematics was the most intriguing, followed by physics and biology, but for the ladies, mathematics was in the middle, with biology being the most engaging and physics being the most boring (Van De Werfhorst et al., 2003).

Parental Influence on Discipline Choice

If a student's parents have a science background or have encouraged them to take science courses, the student may be more likely to choose science. If parents want their child to be a psychologist, the student will be inclined towards psychology. Sometimes, what happens is that a student develops an interest in the subject which is in discussion at their dining table. One of the significant determinants of discipline choice is parental influence. Studies have shown that parental encouragement, educational background, and career aspirations significantly impact students' decisions (DeWitt & Archer, 2015). Parental influence can shape students' perceptions of various disciplines, their motivation, and their beliefs about their abilities. Suppose one of the guardians' is a doctor, in that case, the student will be familiar with the names of medicines, names of diseases, the precautions to be taken and other basic knowledge, which may motivate them to choose the medical stream. Generally, the students prefer to choose a career similar to their guardian's occupation. Parental counselling also contributes to profession selection, however, parental influence has no significant impact on career choices (Kumar, 2016). Parents with higher levels of education may also be more concerned about the calibre of education. They may be more knowledgeable about institutions, various fields, and even sub-disciplines of study, so they would counsel their children to make the best decision possible (Tilak, 2022). Van De Werfhorst et al. (2003) researchers have examined the degree to which children are likely to select subjects that are related to their parents' qualities. In general, children are likely to choose themes that align with their parents' interests since their parents' interests are conveyed to them (Werfhorst et al., 2003).

Teacher's Influence on Discipline Choice

The quality of teaching and classroom experiences can play a crucial role in a student's subject choice. If a student finds science classes engaging, exciting and challenging, they may be more motivated to

continue studying the subject. Educational experiences, including school environment, curriculum, and teaching methods, play a crucial role in shaping students' attitudes towards science. Research suggests that engaging in hands-on experiences, such as laboratory activities, science fairs, and field trips, positively influences students' interest and motivation in science (Osborne, Simon, & Collins, 2003). However, educational decisions like subject selection are triangle concerns that involve children, parents, and teachers. However the latter was significant as choice mediators acting inside an institutional context channelling.

Socioeconomic Factors on Discipline Choice

Access to laboratory equipment, textbooks, and technological tools can also impact a student's subject choice. Students with access to quality resources may be more likely to pursue science courses. When compared to students from SCs and STs, students from the general category are substantially more likely to apply for admission to modern/IT-related departments. Whereas, SC enrollment is 58.95 lakh, up from 56.57 lakh in 2019-20 and 46.06 lakh in 2014-15. ST student enrollment has climbed to 24.1 lakhs in 2020-21, up from 21.6 lakhs in 2019-20 and 16.41 lakhs in 2014-15 (Ministry of Education, 2021). Surprisingly, compared to students in the general category, being an OBC improves the likelihood of enrolling in programmes linked to information technology. Regarding their socioeconomic status, OBCs might even be better than the general category.

Personal Interest and Motivation as Determinants of Discipline Choice

A student's interest and aptitude towards a particular subject can be a significant determinant in choosing the subject. Students who enjoy exploring the natural world, conducting experiments and solving problems, may be more likely to choose science as a subject. Students with good writing skills and an interest in poetry and literature are more likely to choose languages. Some students who have spatial or bodily-kinesthetic intelligence are more inclined towards physics. Surprisingly, children sometimes choose a different career irrespective of their family trend or their peer group choice.

Peer Influence on the Discipline Choice

If a student's friends are interested in science, they may be motivated to take up the subject. If friends are choosing commerce, one gets inclined towards the commerce subject. Mtemeri (2020) stated that peer education, encouragement, and counsel were among the main predictors. Students, however, disputed that they looked to their peers for approval of their professional choices. Peer influence on job choices should not be overlooked, as friends and coworkers can also considerably impact changing educational paths. Most students choose educational subjects that their peers, cousins, and colleagues have chosen.

Impact of Related Careers on Discipline Choice

Employment prospects and discipline enrollment are likewise associated, as might be predicted. Students enrolling in IT-related courses anticipate greater possibilities of finding better or quicker jobs than students enrolled in other fields (Tilak, 2022). A successful individual must have a clear vision and aim, although his or her directions can be defined by many elements, such as forces such as new and prevalent marketing aspects, which have a big impact on the choice of one's educational career (Ahamd, Alam, & Alam, 1997). Existing trends and developments, on the other hand, have made it increasingly difficult for young people to make meaningful choices and establish effective pathways and transitions from education to work. Science subjects are often prerequisites for several healthcare, engineering, research, and technology career paths. Students who have career aspirations in these fields may be more inclined to choose science subjects. It is his option as a generally middle-class student, and he makes it deliberately concerning career, skill, and prospects. Indeed, the mismatch between skill demand and supply is a severe issue for industrialised countries. The scarcity of skilled workers will entice a large number of foreign workers to relocate to these countries. These foreign professionals are from developing nations with lower income levels and do not generate any business in the host country since their demand is smaller than the existing wage rate in the host country.

Regional and Cultural Factors on Discipline Choice

The pupils' home country is discovered to be statistically important in predicting their preferences. A majority of individuals who do not move enrol in traditional courses, whereas students from other states

move there to pursue admission in modern subjects. Nevertheless, it is discovered that many additional household factors are statistically insignificant, although the coefficients produce the expected outcomes (Tilak, 2022). Due to the connection between the arts and humanities and these students' cultural experiences and their enjoyment of science and technology disciplines, leisure activities. For instance, it is reasonable to assume that people who read for leisure at home will find studying literature to be the most enjoyable. Students from low-income households may find it more difficult to compete in the arts and humanities than in scientific and technical fields, where they do not have the same comparative disadvantage (Werfhorst, 2003).

The Role of Assessment and Testing in Discipline Choice

Performance on the higher secondary test turns out to be a statistically significant determinant in students' choice of subjects when considering their academic background. The likelihood of being admitted to IT-related departments is higher than that of traditional engineering branches, inversely proportional to the percentage of points earned on the higher secondary exam. This supports the widespread perception that deserving students perform better in competitive standard entrance exams and senior secondary exams, get higher percentages of marks, and ultimately choose to major in IT-related fields. As with traditional departments, graduates from schools associated with state (provincial) boards are less likely to enrol in IT-related departments.

Part-time work and its role in discipline choice among students

Some students who want to be independent during their studies prefer to choose the subjects which are easier and have a provision to do part-time work. The students with financial issues generally seek a discipline which needs less time and is easy so they may get time to pursue their job too. Enrollment in Distance Education is 45.71 lakh (with 20.9 lakh female), a 7% rise from 2019-20 and a 20% increase from 2014-15 (Ministry of Education, 2021).

Conclusion

In conclusion, the choice of discipline among students at the secondary level is a multifaceted decision influenced by a myriad of factors. This analytical investigation has shed light on various determinants affecting students' decisions, ranging from societal expectations based on gender stereotypes to parental influence, teacher's guidance, socioeconomic status, personal interests, peer pressure, career aspirations, regional and cultural factors, as well as academic performance and the role of assessment and testing. One of the critical findings of this research is the disparity in discipline choices among students across different regions and socioeconomic backgrounds. For instance, while some regions show a preference for science subjects, others lean towards arts and humanities. Similarly, students from privileged backgrounds may have better access to resources and thus tend to choose certain disciplines over others. Moreover, the study underscores the significant role of parental influence and peer pressure in shaping students' decisions. Parents' educational backgrounds, career aspirations, and discussions at home play a crucial role in guiding students towards particular disciplines. Likewise, peer influence and societal expectations contribute to the decision-making process, sometimes steering students away from their genuine interests.

Furthermore, the implementation of the National Education Policy 2020, with its emphasis on flexibility and choice in education, marks a significant shift in the educational landscape. This policy aims to empower students to design their academic paths based on their interests and aspirations, thereby promoting holistic development and breaking traditional disciplinary boundaries. However, despite these efforts, the research highlights persistent challenges in achieving a balanced distribution of students across disciplines. Factors such as gender biases, socioeconomic disparities, and regional preferences continue to influence students' choices, leading to imbalances in manpower distribution and societal needs. In light of these findings, educational institutions and policymakers must adopt measures aimed at promoting equity and inclusivity in discipline choices. This includes providing equal access to resources, addressing gender stereotypes, enhancing career guidance and counselling services, and fostering a supportive learning environment that encourages students to explore diverse disciplines. Ultimately, by understanding the complex interplay of factors influencing students' discipline choices, educators and

policymakers can work towards creating a more equitable and responsive educational system that empowers all students to pursue their passions and fulfil their potential.

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