

# Do Students' Beliefs About What Subject Their Parents Want Them to Pursue Affect Their Subject Selection in University? - An Experimental Study on High School Students in India

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This research investigates the impact of parental expectations on subject selection among high school students in India, with the aim of understanding its effect on human capital development dynamics. To explore this relationship, a survey was conducted with a sample size of 75 students, aged predominantly 17 years, drawn from diverse educational boards and curricula across India. The sampling strategy included both random and stratified methods to ensure representation across different socioeconomic backgrounds. The survey employed a mixed-method approach, featuring both quantitative questions to assess academic performance using a standardized grading scale, and qualitative questions designed to capture students' perceptions, beliefs, and attitudes toward their subject choices. The findings revealed a gender-based disparity, with 67% of the sample being female. For female students, there was a notable alignment between their subject choices and parental expectations, especially concerning earning potential, highlighting strong parental influence. In contrast, male students displayed more varied motivations in their decision-making processes. Additionally, there was a significant preference for natural sciences among both parents and students, while creative subjects like languages were least preferred, reflecting prevailing societal and familial biases against these disciplines as viable career paths. These insights offer a deeper understanding of how parental expectations shape academic choices, ultimately influencing labor market trends and human capital development in modern India.

## Introduction

This study investigates whether high school students' perceptions of their parents' preferences influence their choice of university subjects in India. Beliefs refer to students' perceptions about what their parents want them to study, while subject selection is the process of choosing academic disciplines for higher education. The research aims to understand how parental expectations may shape students' academic decisions, potentially affecting their career paths and the overall dynamics of human capital development in India.

Education is a critical investment in human capital and plays a pivotal role in economic development. The choice of university and field of study significantly contributes to the development of skills that are valuable in the labor market. Understanding the major factors influencing decisions on subjects and universities provides insights into the dynamics of human capital development and its economic implications.

This paper, by analyzing and evaluating the degree to which parental expectations affect the subject selection of Indian high school students (and thus career choice), allows us to understand the underlying reason for current market dynamics. This helps to identify issues such as over-allocation or under-allocation of resources to specific sectors. India, specifically, lacks en-

trepreneurship, and many start-ups face failures. This leads to high rates of unemployment in India, with a gaping 8.1% unemployment rate as of April 2024.

The family has a significant impact on the lives of high school graduates in India, who are expected to consider their future ambitions yet are limited by traditional standards. The publication "The Economic Times" reports that 82% of Indian parents influence their children's career choices. Parents, whether aware or not, influence the professional paths of their children<sup>1</sup>. Family values play a key role in the decision-making process of students. This influence is particularly pronounced in countries like India, where the presence of joint families and the emphasis on family values are substantial.

Economics analyses the distribution of resources, a process that is strongly influenced by the professional decisions made by high school students in India. For instance, a striking 93% of Indian parents indicated their strong inclination to support their children in choosing engineering as a career choice. Considering these students as customers in the education market implies a possible over-allocation of resources to particular professions such as engineering. In addition, the Indian education system does not incorporate business courses, thereby exacerbating the country's entrepreneurial activity. The scarcity of entrepreneurs in India can be attributed to the prevailing culture that values

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financial stability over taking risks, a mindset that has been passed down through generations. Gaining insight into this relationship helps enhance the development of policies and optimize the allocation of resources. Alleviating these deficiencies could potentially promote economic growth and development.

Students' career choices have a significant impact on the labor dynamics of India. Thus, it is important to understand the factors influencing this decision. A prominent factor, especially in India, is parental influence.

This perspective asserts that the historical background of India and the previous conditions that dominated the country greatly determine the formation of what may be referred to as the 'Indian mindset' about professions. In the post-independence period, social stress and anxiety, along with resulting emotional instability, prevailed due to the sufferings endured under British rule, and the trauma of the partition of India. Historically, the unique social dynamics and living conditions in India have contributed to the development of united families, overcrowded neighborhoods, and bustling markets, which are often perceived as safe and secure. The resultant society fostered a culture that is overbearingly risk averse, especially regarding loss of life. This led to a cautious mindset amongst middle-class families. The generally adverse and unfriendly conditions in the business world as well as scarce opportunities for employment have supported such a perspective, encouraging people to avoid deviating from the norm that favors stable and certain career paths. It is therefore beyond doubt that the Indian startup ecosystem has some fundamental differences with the mature startup economy of countries like the United States of America. According to the World Bank's Ease of Doing Business Index, India currently stands at 77 among 190 countries, while the USA stands at 7 when it comes to ease in registration of a business enterprise or a company.

In traditional Indian families, members are considered indispensable to one another. Older relatives often take on the responsibility of making important household decisions to maintain the family's core values. It persists in issues concerning the choice of career and marriage where parents are given the responsibilities of finding jobs and spouses for their children. If one were to attempt to define inter-generational financial support in its simplest terms, then it would be seen as a structure where young adults enjoy the comforts of a well-managed household without having to pay for some of the services such as rent, while in return the parents continue to have authority over the recipients of their support.

India is a society that highly values respect and dignity, and hence families are acutely conscious of their social status. This consciousness drives them to micro-manage their children's careers, often prioritizing socially respected professions over his or her personal interests. Consequently, many young adults sacrifice their personal ambitions in favor of careers that align with familial and societal expectations, thus ensuring the family's

continued social standing and financial security.

We ran a survey eliciting the relationship between parental jobs as a proxy for their indirect influence on the subject choice of students. The survey is run on high school students across various boards and curricula with a standardized scale used to measure the respondent's academic performance. The sample used was a convenience sample and the invisible factors that this survey analyzed were inclusive of the respondent's perceptions, beliefs, and attitudes. The survey, majorly, provided qualitative information and allowed for the construction of strong and distinct correlations. Indeed, the results obtained displayed a high correlation between parental expectations from their child and the child's personal interest. The results showcased fluctuations of trends and observations as key characteristics, such as gender, of the respondent changed.

The following paper is structured as follows. Section 1 summarizes the related literature. Section 2 discusses the framework motivating this paper. Section 3 gives an overview of the survey participants. In section 4 we discuss the results. Finally, section 6 concludes.

## Literature Review

This paper contributes to the growing literature on the determinants of subject choices and the generational transmission of parental beliefs and values regarding children's future aspirations. By focusing on the impact of parental expectations on students' decision-making, this study aims to expand our understanding of how these factors influence the development of human capital in India.

## Gender Differences in Subject Choice

A significant body of research has explored how gender disparities shape students' academic and career choices. For instance, previously it was examined that how overconfidence, competitiveness, and risk preferences contribute to gender differences in major selections and expected earnings<sup>2</sup>. Their findings suggest that psychological factors play a crucial role in guiding students' academic paths, particularly in relation to gender-based disparities. This aligns with evidence that male and female students have differing motivations and perceptions when choosing their fields of study, which subsequently influence their career outcomes. Understanding these gender dynamics is essential for developing educational strategies that foster equal opportunities.

## Parental Influence on Academic and Career Aspirations

Parental expectations are a major factor in shaping students' educational trajectories. Study illustrates how students adjust their beliefs about their abilities and earning potential when presented with information about major-specific characteristics<sup>3</sup>.

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This highlights the role of subjective beliefs in shaping educational choices, with strong parental influence, particularly among female students, playing a key role. Further, research delves into how students' perceptions of long-term outcomes - such as wages, employment prospects, and even marital and fertility expectations - are closely tied to their academic choices<sup>4</sup>. This emphasis on long-term benefits underscores the importance of understanding the link between students' and parents' expectations in determining their educational paths.

### **The Role of Socioeconomic and Demographic Factors**

Unlike previous studies that primarily focus on economic and capability-related factors, this research incorporates both qualitative and quantitative data to offer a more balanced perspective. By using a comprehensive survey method-including demographic questions, Likert scale ratings, and open-ended responses - this study captures the nuanced reasoning behind students' decisions. This approach allows for a deeper exploration of how personal interests, perceived abilities, earning expectations, and feedback from parents collectively influence major choices, highlighting subconscious biases and the interplay between different influences.

### **Comparison to Related Research**

The closest related study, "Parental Influence on Choice of Career among Secondary School Students in Ilorin Metropolis, Kwara State"<sup>5</sup> focuses on demographic data and family background in relation to career choice. While their work offers valuable insights into the role of parental occupation and family type, it does not thoroughly examine the transmission of values and beliefs. This study builds on their work by exploring how students perceive their parents' expectations and how this perception influences their decision-making process. By prioritizing students' subjective beliefs about their parents' views, this research adds a layer of depth to understanding the generational impact on educational choices.

### **Justification of the Study**

Despite the extensive research on factors influencing subject choices, there remains a gap in understanding the dynamic interaction between personal interests, parental expectations, and broader societal influences. This study addresses this gap by examining how these elements intertwine to shape students' academic paths, particularly within the Indian context. By adopting a holistic methodology that emphasizes both quantitative analysis and qualitative insight, this research aims to offer a comprehensive perspective on how subject selection impacts human capital development.

## **Framework**

It is crucial to acknowledge that parental expectations may have a significant impact on the kid, extending beyond just fostering interest in a certain subject. Parents' expectations may also be influenced by their perception of their child's competence. Children may possess divergent ideas regarding their parents' perceptions of their capabilities. This might be highly associated with their choice of subjects. For example, students may have the belief that their parents do not perceive them as sufficiently intelligent, leading them to refrain from applying to institutions offering highly competitive majors. However, they may later decide to change their course of study. This statement may hold true, particularly in the context of artistic disciplines. Parents may convey the perception that they do not believe their child has the creative skill to pursue a major in art. The child's consequent selection of a certain subject as a "safe back-up" may impede their commitment to the arts. Hence, the expectations of parents constitute a complex and multifaceted influence on topic choices and should be regarded accordingly. The poll inquired about the pupils' talents and their perception of their parents' opinions about their abilities. These questions helped identify inconsistencies if the student was not obtaining high grades in the subject yet was still studying it in university. Typically, the student presumed that the parent had the belief (or perhaps held the belief) that he or she had the ability to pursue the topic at university.

A criterion as to what qualifies as rational behavior whilst choosing a subject was also constructed. When choosing undergraduate subjects, students ideally optimize utility by balancing passion, career goals, and skill development. Prioritizing subjects that align with their interests and offer high marginal utility in knowledge and skills could be classified as rational thinking. Seeking feedback and considering long-term benefits to maximize satisfaction and value from education is also an aspect of rational thinking while choosing a subject to pursue in university. This criterion allowed for a thorough analysis of candidate responses regarding how they differed from what was "rational" and why this discrepancy occurred. For instance, a student wished to pursue art when she was younger but switched to psychology later on, giving the justification that psychology is a "safer" subject to pursue. Rational behavior for high-income individuals would prioritize interest. Further analyzing this decision, it is brought to attention that the parents think 'capability' is the most important factor when choosing a subject to study. Knowing that art as a profession is extremely demanding, in terms of one's ability, one can make the assumption that this switch was heavily influenced by the mindset of parents. This shows a strong correlation between irrational decision-making and parental influence.

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## Data

### Data Collection Procedures

The survey was conducted in May and June 2024, targeting high school students across various educational boards and curricula in India. The sampling strategy employed was convenience sampling, which aimed to capture a diverse range of student experiences and perspectives. Given the nature of this approach, the sample yielded primarily qualitative data, supplemented by quantitative measures for a more comprehensive analysis.

### Survey Instrument

The survey was designed to gather both qualitative and quantitative data using a mixed-method approach. A Likert scale was used for quantitative questions to evaluate academic preferences and perceptions on a standardized scale. The survey included demographic questions on age, gender, educational background, primary country of university application, and presence of siblings. Subsequent questions focused on intended majors and minors, as well as career aspirations, to map out the participants' academic trajectories.

For the qualitative component, open-ended questions explored the students' beliefs, motivations, and attitudes toward different academic fields. These questions aimed to capture the multi-dimensional factors influencing subject choices, such as perceived job security, interest levels, societal expectations, and earning potential associated with various disciplines (e.g., Arts, Natural Sciences, Humanities, Social Sciences).

### Survey Design and Validation

The standardized scale used in the survey was adapted from prior validated studies on academic decision-making and motivation. The Likert scale employed for quantitative questions ranged from "strongly disagree" to "strongly agree" to measure the strength of students' attitudes toward parental influence and academic preferences. Qualitative questions were designed based on the themes commonly identified in existing literature on parental expectations and educational choices.

### Data Analysis

Quantitative data were analyzed using statistical techniques to identify correlations between students' subject preferences and factors such as parental background, gender, and intended career paths.

Qualitative responses were analyzed through thematic coding. Coding schemes were developed to categorize open-ended responses into themes such as perceived parental pressure, career aspirations, and societal perceptions of various academic

fields. This approach aimed to identify patterns and underlying motivations in students' subject choices.

### Ethical Considerations

Informed consent was obtained from all participants prior to completing the survey. The data were anonymized to protect the participants' identities, and students were assured that their responses would be kept confidential. Ethics approval was sought from an institutional review board to ensure compliance with ethical research standards.

### Limitations

One of the major limitations of this study is the gender skew in the sample, with 67% of respondents being female. This imbalance may affect the findings, as the data may not adequately reflect the perspectives of male students. Although efforts to control for gender in the analysis were limited, future research could aim to include a more balanced sample to provide a more comprehensive understanding of students' academic choices. Additionally, the lack of advanced statistical tools in the analysis restricts the ability to uncover deeper insights and more complex correlations in the data, limiting the overall interpretability of the results. These factors should be considered when evaluating the conclusions drawn from this study. The study is, hence, more qualitative in nature.

## Results

The following section presents the results of the survey structured by thematic focus.

Category	All	Female	Male
Respondents (started)	75	50	23
Respondents (completed)	30	20	10
Age (in Years)	16.82	16.78	16.91
Year of School	11.25	11.32	11.18
Grades (in Percent of Max)	84.8	85.6	82.8
Subject Majors			
Natural Science	22	17	5
Economics, Finance, and Business	18	13	5
Arts	7	5	2
Others	13	5	8

**Table 1** showing demographics and subject majors by gender and overall respondents

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## Gender Roles

When making career or subject decisions, the majority of parents and students prioritize personal interest (Appendix question 35). To do so, the study asked students to rank the aspects provided in terms of importance according to them as well as what they believe their parents will rank them. These aspects included earning expectations, personal interest, feedback from others, capability, and parental expectations (asked only to students). However, earning expectations and perceived capabilities are also significant factors. For females who prioritize earning expectations over personal interest, this preference aligns closely with their parents' values, suggesting strong parental influence. This is evident in the graph titled "Earnings over interest," showcasing that for the share of females who ranked earnings over interest, 50% of their parents ranked earnings over interest too. However, for males where parents rank earning expectations as most important, this is not necessarily represented in the personal ranking of factors, in terms of importance, a student takes into consideration before choosing the subject they wish to pursue in university. 80% of male students disagreed with their (perceived) parents' assessment of earning aspirations as the most important or second most important factor. Instead, they evaluated it as less essential.

## Natural Sciences

A substantial preference for natural sciences is evident among both parents and students, reflecting a broader societal or familial emphasis on these fields. About 73% of students believed their parents wished for them to pursue natural sciences, and 54% of them actually did do so. Conversely, arts are the least preferred by parents (per the question that asks students to rank subjects according to what they believe their parents would want them to pursue, appendix question 38), highlighting potential biases against arts as a viable career path. This is evident as any student pursuing art is seen with a minor or double major in an academic subject (most commonly business). This alignment between parental expectations and student choices represents direct parental influence, as many students' academic paths mirror their parents' preferences conveyed through direct conversations. However, the influence parents have over the subject selection is not completely on a surface level. The interest the child has and the subject the parent wishes for the child to pursue are matching for many of the respondents.

## Students' Perceptions

Students generally perceive their parents as supportive of their academic capabilities, even when their grades are not the highest. This indicates that interest and parental encouragement play critical roles in their academic choices. For students with lower

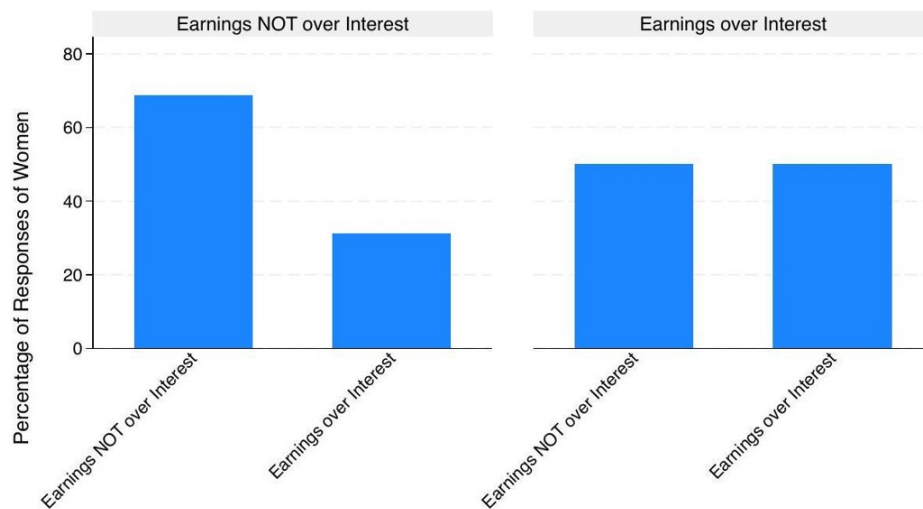
grades, parents' high regard for interest or perceived capability could be what drives the child's pursuit of chosen subjects.

For those who do not rank "interest" as a top priority whilst choosing the subject to pursue in university, most are applying abroad, with 61% applying to the United States of America. Their top ranking is usually capability, or earning expectations. This may be a result of the middle-class mindset that many Indians employ as they justify spending a lot of money (foreign studies) by expecting greater returns (high earning expectations). Moreover, this result may be a reflection of their risk-averse nature as parents (according to what students believe) are only willing to invest so much money in their child's education abroad if they consider them to be "capable" of thriving in foreign countries.

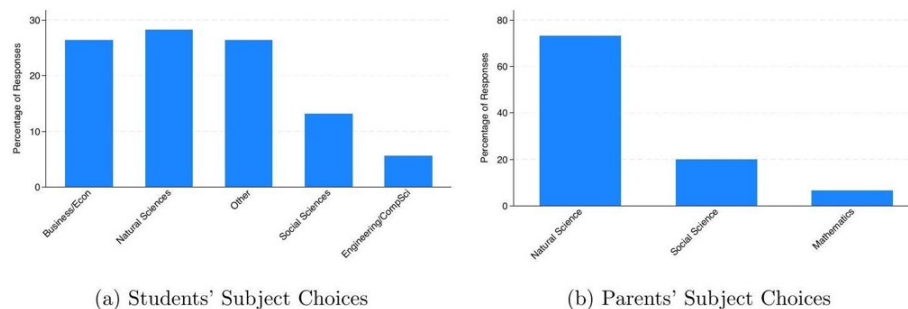
## Discussion

In previous section, the results show that while personal interest is prioritized by most students, females align more closely with their parents' emphasis on earning expectations, whereas males often rank this factor lower than their parents, indicating a gender difference in parental influence. Gender roles are significantly affected by the attitudes and gender roles of family members. There is a crucial relationship between parents' self-reported beliefs regarding gender roles and the subsequent beliefs of their children<sup>6</sup>. Women may be more influenced by their family background than men because their behavior and decisions are typically more closely monitored and catered to by their parents<sup>7</sup>. Indeed, it was noted that parents tend to supervise their daughters more than their sons<sup>1</sup>. This, potentially, creates a channel through which parents impose their beliefs on their children. Moreover, neuroscientists have found that females are biologically more caring than males<sup>8</sup>, suggesting a higher tendency to implement parental expectations whilst picking a possible career route.

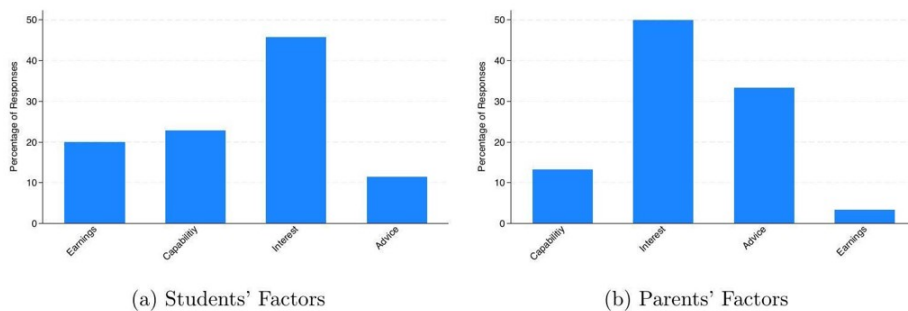
In line with the results in previous section, parents play an important role in influencing their child's future career decision and this can be done through explicit encouragement or discouragement, or can be done through implicit means. Research highlights that the quality of the parent-child relationship can have a profound impact on the stability and type of careers chosen by young adults. For instance, a Harvard study shows that positive parent-child relationships are associated with career stability<sup>9</sup>. Additionally, parents' involvement and guidance in career planning, such as attending career talks and facilitating exposure to various professions, are crucial steps in helping children make informed decisions<sup>10</sup>. According to the survey, there is a positive correlation between how capable the parents think the student is to excel in the subject and the subject the child has chosen and is interested in. A lot of these responses were "maybe." This may suggest that the parent's view of how capable the child is to excel in a certain field has been driving



**Fig. 1** Parental Agreement on Earnings vs. Interest Choices for Daughters



**Fig. 2** Preferred Subjects by Students and Parents



**Fig. 3** Most Important Factor for Subject Choice by Students and Parents

the child, even though he or she is not completely aware as in most of these cases the child is, indeed, capable to excel in the subject in terms of past academic achievements.

In previous section, students not prioritizing personal interest in choosing university subjects often apply abroad, especially to the USA, prioritizing capability or earning expectations due to a

middle-class mindset and risk-averse parental influence. Brain drain is the phenomenon when highly educated and competent professionals leave underdeveloped or native nations to go to more industrialized ones. The phenomenon of brain drain has had a significant impact in India, impeding the progress and expansion of the economy. Based on the Expat Insider 2021

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poll, a majority of 59% of Indians relocated to foreign countries primarily for professional reasons, surpassing the global average of 47% by more than 10%<sup>11</sup>. The emigration of talented youngsters to foreign nations for education and job opportunities might have detrimental effects on the Indian economy. Possible ramifications may include diminished tax income, a dearth of aspiring businesses, and a scarcity of competent laborers.

9 X. Chen, *The impact of child-parent relationship on young adults' career choice*.

10 A. Kim, *The parents' role in career selection*.

11 InterNations, *Expatriate insider survey*.

## Conclusion

The findings of this study underscore the significant role that parental expectations play in shaping students' subject choices for university applications. The data suggest that whether intentional or unintentional, parental influence is a key factor in students' decision-making processes regarding academic and career paths. This study contributes to a better understanding of how individual career choices are formed within the context of family dynamics in India. While the research highlights a correlation between parental influence and students' academic preferences, it does not establish a direct link to broader macroeconomic conditions such as unemployment or labor market challenges. Instead, the results suggest that parental expectations may contribute to shaping the career trajectories of individuals, potentially influencing the diversity of skills and fields of study within the workforce. Further research could explore how these individual decisions collectively impact labor market trends, entrepreneurial activity, and economic outcomes in India. By narrowing the scope to the role of parental expectations in individual career development, the study provides a foundation for future investigations into the interplay between education, family influence, and labor market dynamics.

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## Survey Questions

- Q1: What's your gender?
- Q2: What's your age?
- Q3: Do you have any siblings?
- Q4: In which of the countries below are you applying to/are going to go to university? Please select all that apply.
- Q5: What country are you primarily applying to/are going to for university?
- Q6: What subject do you plan to pursue in university?
- Q7: What minor do you wish to/plan to take in university that complements the subject you wish to pursue (for instance - biology and psychology)?
- Q8: Rank the following fields based on earning expectations (highest 1 to least 5) five years after studying it in university.
- Q9: Rank the following fields based on personal interest (highest 1 to least 5).
- Q10: Rank the following fields based on the amount of positive feedback you have received about them (highest 1 to least 5).
- Q11: Rank the following in order of how capable you think you are to excel in each of these fields (highest 1 to least 5).
- Q12: Rank the following fields according to how secure you perceive careers in them (highest 1 to least 5).
- Q13: What are your overall grades?
- Q14: What are your grades in the subject?
- Q15: Do you have any noteworthy achievements in the subject? If yes, please mention them.
- Q16: Are there any prominent skills you have that you think will help you excel in the subject?
- Q17: Do you have any evidence of being applauded for these skills? If yes, please mention.
- Q18: What are your future earning expectations from studying this subject?
- Q19: To what extent do you think how much you earn is related to the subject you choose to study?
- Q20: How interested are you in the subject you chose? [Scale of 1-10]
- Q21: Is this your favorite subject?
- Q22: How long have you wanted to pursue this?
- Q23: Has your interest ever changed?
- Q24: What advice have you received from others regarding job security in this field?
- Q25: What advice have you received regarding the satisfaction associated with this subject?
- Q26: Have you received any advice that caused you to change your choice? If yes, whose advice was it?
- Q27: Rank the following aspects (interest, earning expectations, feedback from others, capability, and parental expectations) from most important to least important when deciding the subject you want to pursue in university.
- Q28: Does your mother work a job?
- Q29: What field does your mother work in?
- Q30: What is your mother's job title, and where does she work?
- Q31: Does your father work a job?
- Q32: What field does your father work in?
- Q33: What is your father's job title, and where does he work?
- Q34: Did they have any interests they couldn't pursue at the time and still haven't? If yes, please mention.
- Q35: How would your parents rank the following aspects in terms of importance while making your subject selection for university?
- Q36: Are there any common phrases you hear about a subject (e.g., "xyz subject doesn't matter")? If yes, please mention it.
- Q37: From what channel have your parents' opinions been known to you?
- Q38: How would your parents rank these fields in terms of what they would want you to pursue (regardless of your interests)?
- Q39: Do your parents think you're capable of excelling in the field/subject you plan to pursue in university?