

## Key Factors in Undergraduate Students Subject Selection: A Case Study at the University of Baluchistan

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### ABSTRACT

*This study investigates the factors influencing undergraduate students' subject selection at the University of Baluchistan. The research employs a stratified random sampling method, drawing a balanced sample of 300 students from various faculties, with equal representation of male and female students. Data were collected using a structured questionnaire capturing personal interests, academic performance, socio demographic characteristics, and career aspirations. The analysis was conducted using binary logistic regression in Minitab version 19, focusing on the likelihood of students choosing science disciplines. Results reveal that factors such as ease and interest in the subject and the influence of media play significant roles in students' decision-making, positively affecting their choices. Conversely, parents' income shows a significant negative relationship, indicating that financial constraints may deter students from selecting certain subjects. Job opportunities, while relevant, do not exhibit a statistically significant influence. The findings underscore the need for targeted interventions by educators and policymakers to address the diverse factors shaping academic choices and to support students in aligning their decisions with their interests and aspirations.*



## **Introduction**

Education plays a pivotal role in shaping both individual lives and society at large. By imparting essential knowledge and skills, it equips individuals to achieve their aspirations and contribute meaningfully to societal progress. This is particularly significant for developing nations that seek to improve their educational and economic standing through effective policies. The positive effects of education extend beyond the individual; it also builds human capital, sharpens skills, and fosters investment opportunities within communities. As such, the process of selecting an appropriate field of study and educational institution is a crucial element of success in both academic and professional life. Optimal academic performance not only opens doors to personal development and career prospects but also enhances national development, benefiting society as a whole (Khan, 2012; Khan et al., 2021; Khan et al., 2022).

One of the key ways in which education fosters individual and societal development is through informed decision-making. Making the right choices regarding academic pursuits—such as selecting a suitable field of study, institution, and area of specialization—lays the foundation for academic success. These decisions are pivotal for the personal development of students and their future career paths. When students make well-informed decisions, they are more likely to experience academic success, which leads to better career prospects and higher personal fulfillment.

Informed decision-making not only benefits the individual but also aligns with broader societal objectives. A workforce with higher levels of education and expertise leads to increased productivity, innovation, and economic growth. Therefore, education transcends individual success and becomes an engine for national progress (Khan, 2012; Khan et al., 2021; Khan et al., 2022). In this context, the decision-making process becomes an essential factor that influences the effectiveness of educational policies and their ability to foster broader economic and social development.

Personal interests and passions are among the primary motivators for students when selecting academic fields. When students choose subjects that resonate with their intrinsic interests, they are more likely to remain engaged and motivated throughout their studies. Passion for a subject fuels academic dedication, and this motivation is critical for success. Research shows that students who pursue courses aligned with their personal interests tend to perform better and stay committed to their educational journey (Memon et al., 2021).

Moreover, motivation plays a significant role in sustaining a student's focus on their academic goals. When students feel passionate about their field of study, they are more likely to invest time and effort into mastering the material. This intrinsic motivation also helps students overcome challenges, as they are driven by an internal desire to succeed. In contrast, students who are less enthusiastic about their chosen subjects may struggle with motivation, potentially leading to disengagement or academic underperformance.

While personal interests are important, students are also guided by their academic strengths when making decisions about their studies. Many students tend to select fields that align with their abilities, typically choosing subjects where they have excelled in the past or where they demonstrate an aptitude. For instance, a student with strong math skills may gravitate toward fields

such as engineering, economics, or physics. Similarly, students with a talent for the arts may opt for creative fields like design, music, or literature.

Academic abilities and previous performance serve as indicators of a student's potential for success in specific subjects. For example, students who have performed well in science-related courses may feel more confident in their ability to succeed in related majors such as chemistry, biology, or physics. Conversely, students who have struggled with certain subjects may shy away from pursuing fields that require similar skill sets. As such, academic abilities directly influence subject selection and shape the academic path a student is likely to follow.

In addition to personal motivation and academic abilities, students' choices are often influenced by external factors such as cultural norms, societal expectations, and the advice of family members. In many societies, there are traditional expectations about which fields of study are deemed "respectable" or "prestigious." For example, in some cultures, students are encouraged to pursue careers in medicine, law, or engineering, as these professions are often associated with social status and economic stability.

Peer pressure can also play a significant role in subject selection. Students may feel compelled to choose fields that align with the choices of their friends or classmates. This peer influence can create a sense of conformity, leading students to make decisions based on social pressures rather than personal interests or aptitudes.

Furthermore, parental guidance and expectations often influence academic choices. Parents may have specific career aspirations for their children and encourage them to pursue certain fields based on their own values or experiences. While this guidance can be helpful, it may also create conflicts if students have different interests or aspirations. For instance, a student passionate about the arts may feel pressured to pursue a more conventional career path in business or medicine to satisfy family expectations.

One of the most critical factors influencing academic decision-making is the alignment between academic choices and long-term career goals. Students often select majors or fields of study that they believe will provide them with the skills and qualifications necessary for their desired job roles. For example, students aspiring to work in technology may choose to study computer science, while those interested in business may pursue degrees in management or economics.

The strategic alignment of academic choices with career goals enhances students' prospects for professional success. When students choose fields that are in demand in the job market, they increase their chances of securing relevant employment after graduation. Additionally, students who carefully select programs that provide specialized training and certifications relevant to their chosen profession are more likely to succeed in their careers.

Moreover, aligning academic pursuits with career goals can provide students with a clear sense of direction and purpose, making their educational journey more focused and fulfilling. Students are likely to be more motivated and engaged in their studies when they can see a clear connection between their education and their future career.

Financial factors, including tuition fees, program costs, and the availability of scholarships, are significant considerations in academic decision-making. In many cases, students are constrained by budgetary limitations, and the affordability of programs plays a crucial role in their choices.

Programs that offer financial aid or scholarships may be more attractive to students who are concerned about the cost of education.

Additionally, students may choose fields that they perceive as offering a good return on investment, especially if they are burdened with student loans or come from economically disadvantaged backgrounds. Fields that are seen as leading to high-paying jobs, such as finance, engineering, or computer science, may be prioritized over others, even if students' interests lie elsewhere.

The financial aspect of education is particularly significant in developing countries, where access to quality education may be limited due to high costs or lack of financial resources. In such contexts, students may be forced to make pragmatic decisions about their academic pursuits, choosing fields that offer the best financial prospects rather than pursuing their true interests.

The design and structure of academic programs also play an important role in students' decision-making processes. Programs with flexible curricula that allow students to tailor their education to their interests and goals can be particularly appealing. Students are more likely to choose programs that offer a diverse range of courses, as this enables them to explore different subjects and discover new areas of interest.

Moreover, programs that provide opportunities for internships, work placements, and practical experience can enhance students' learning and career prospects. These programs not only provide valuable hands-on experience but also help students build professional networks and gain insight into their chosen industries.

Cultural values and social interactions often shape academic decisions. Peer influence may lead students to choose subjects that align with their social circles, while cultural or familial expectations might encourage them to adhere to traditional or respected fields. In some cases, students may feel compelled to conform to societal norms, even if they have different interests or goals.

Social dynamics, including friendships and family relationships, can significantly impact the academic choices of students. As such, academic decision-making is not solely an individual process; it is influenced by broader social and cultural contexts.

## **Literature Review**

Herbert W. Marsh and Alexander Seeshing Yeung (2007) explored how students' academic self-concept and subject-specific interests influence their decisions regarding academic majors. Published in *Educational Psychology*, their study emphasizes that students' perceptions of their academic strengths and their enthusiasm for particular subjects play pivotal roles in determining their chosen fields of study. Similarly,

Ahmad and Farooq (2022) examined the factors affecting postgraduate students' subject choices in colleges across Khyber Pakhtunkhwa, Pakistan. Their research highlighted various influences, such as job prospects, market demands, potential earnings, appealing salaries, personal goals, living standards, societal expectations, and economic challenges like unemployment and inflation. These aspects collectively guide students' academic and career decisions.

Meanwhile, Hossain et al. (2021) conducted a study in Bangladesh and identified significant factors such as career opportunities, subject interest, family and peer influence, and prior academic success. Their findings underline that students' aspirations for future professions, passion for certain subjects, and external influences from family and peers significantly shape their educational choices.

## **Methodology**

The approach to subject selection varies widely between developed and developing countries. In developed nations, children's skills and interests are often identified through diverse activities from an early age. This enables parents and educators to guide them towards academic and career paths that align with their natural talents and preferences, helping them make well-informed decisions. In contrast, in developing countries such as Pakistan, students typically make decisions about their academic fields at the college level. This often occurs without sufficient prior knowledge or consideration of their individual interests and aptitudes. As a result, students may choose fields that do not match their strengths or aspirations, leading to dissatisfaction or underperformance.

Over time, many students discover their true interests and capabilities as they advance in their education. When given the flexibility to select or transition to subjects that align more closely with their preferences, they tend to achieve better academic outcomes and greater satisfaction (Alon & DiPrete, 2015). This study aims to explore the main factors influencing students' choices of academic fields and assess the relative importance of these factors. Insights from this research can help educators and policymakers develop strategies to assist students in making more informed and rewarding academic decisions.

## **Study location and sampling**

This study is conducted at the University of Baluchistan using stratified random sampling to ensure a representative sample of students. The university's education faculties serve as strata, with undergraduate students selected from each faculty to participate. This approach ensures that students from all faculties are proportionally represented in the sample..

## **Data collection**

Data is gathered through a structured questionnaire specifically designed to capture key factors influencing students' subject selection. The questionnaire includes a comprehensive set of questions that address various aspects, such as personal interests, academic performance, sociodemographic characteristics, and other relevant variables. This approach ensures a thorough understanding of the diverse influences on students' decisions regarding their academic choices.

## **Data analysis**

Collected data is entered into Minitab version 19 for analysis. To assess the relationship between students' subject selection and the influencing factors, binary logistic regression is employed. This statistical method is deemed appropriate due to the binary nature of the dependent variable, which indicates whether students opt for the science faculty or not.

## **Binary logistic regression model**

### **Dependent variable**

The dependent variable in this analysis is students' subject selection, specifically whether they choose the science faculty or opt for another faculty. This choice is categorized into two groups, making it suitable for binary logistic regression analysis.

### **Covariates**

The subject selection choices of undergraduate students are influenced by various risk factors, including academic performance, personal interests, and sociodemographic characteristics. To investigate these influences, a binary logistic regression model is employed, as it is well-suited for analysing binary outcome variables. This model enables an examination of the relationship between these risk factors and the likelihood of students choosing the science faculty. By applying this approach, the study aims to uncover the relative importance of each factor in the decision-making process. The primary objective of this research is to predict and understand the factors that shape the subject selection choices of undergraduate students at the University of Baluchistan. Through this analysis, the study seeks to provide valuable insights into the underlying factors guiding students' decisions when choosing their fields of study.

## **Result and Discussion**

### **Sample Description**

The study includes 300 undergraduate students from the University of Baluchistan, aiming to provide a comprehensive overview of the student population across various faculties. The sample consists of 150 male students and 150 female students, ensuring gender balance. Among this cohort, students are categorized by their academic disciplines, with 63 students from the Science discipline and 37 students from other faculties. This distribution enables an exploration of the factors influencing academic performance among undergraduates across different fields of study.

### **Data Collection and Analysis**

To gather relevant data, a structured questionnaire will be employed. This questionnaire will collect information on various factors that may influence subject selection, including personal interests, academic performance, sociodemographic factors, and career aspirations. The collected data will then be analyzed using statistical techniques to identify patterns and predict the key factors that significantly impact students' choices. Binary logistic regression will be applied to examine the relationships between these factors and the likelihood of selecting particular subjects.

### **Easy Interesting Parents' Income Job Opportunity Media Role**

**Table 1: Level of Agreement Easy Interesting Parents' Income Job Opportunity Media Role**

<b>Strongly Agree</b>	37	25	38	33
<b>Agree</b>	59	33	51	39
<b>Moderately Agree</b>	44	45	64	39
<b>Disagree</b>	37	51	40	50
<b>Highly Disagree</b>	25	34	36	24

**25 students** strongly believe that the ease and interest of the subject are key factors in their decision to choose it. These students think that the subject’s simplicity and their personal interest in it are very important. **59 students** agree that ease and interest are important but perhaps not as strongly as the first group. This shows that for a larger group, these factors matter, but not to the same extent. **44 students** are somewhat influenced by ease and interest, meaning these factors are considered, but they are not the main reasons for choosing a subject **34 students** disagree that ease and interest play a significant role, suggesting that for them, other factors are more important. Finally, **25 students** strongly feel that ease and interest do not influence their decision at all, showing that this factor is not significant for some students. Parents income **37 students** strongly feel that their parents' income influenced their subject choice, meaning that financial factors are important to these students when making decisions. **38 students** agree that parents' income plays a role, but perhaps not as crucial as the first group believes. **45 students** are moderately influenced by parents' income, meaning it’s one factor among others, but not the most important. **39 students** disagree with the idea that their parents' income affects their subject choice, indicating that they made their decisions regardless of their parents’ financial situation. **37 students** strongly believe that parents' income does not affect their subject choice, further highlighting that financial factors are not significant for some students. A total of **33 students** strongly agree that job opportunities are a key factor in their subject selection, emphasizing the importance of future career prospects. Similarly, **39 students** agree that job opportunities influence their choice, underscoring its significant role in decision-making. The highest response, with **64** students, indicates that a large majority consider job prospects to be a moderately important factor. However, **40** students do not view job opportunities as influential in their decision-making, while **24** students strongly feel that job opportunities do not affect their choice. These responses highlight the varied priorities among students when selecting their subjects. The influence of media on students' subject selection reveals a diverse range of opinions. Among the students, **38** strongly believe that media plays a critical role in their decision-making process. Another **51** students agree that media has a substantial influence, emphasizing its significant impact. However, **39** students report being only moderately influenced by media, reflecting a varied level of impact within the group. Conversely, **50** students disagree, indicating that media is not a decisive factor in their subject choices. Additionally, **36** students strongly disagree, firmly asserting that media does not affect their academic decisions. This variation in perspectives highlights the complexity of media's role in shaping students' choices.

**Figure 1:**

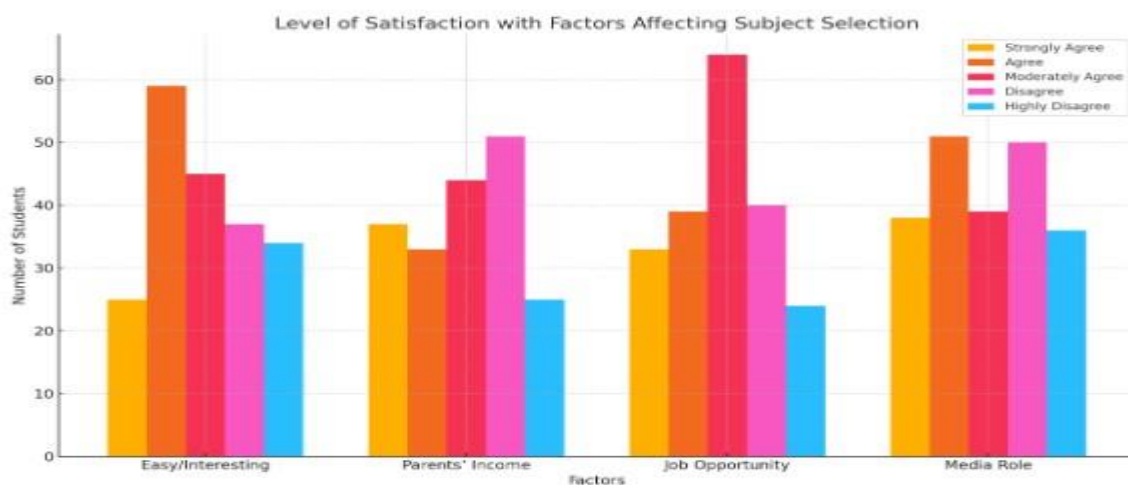


Figure 2:

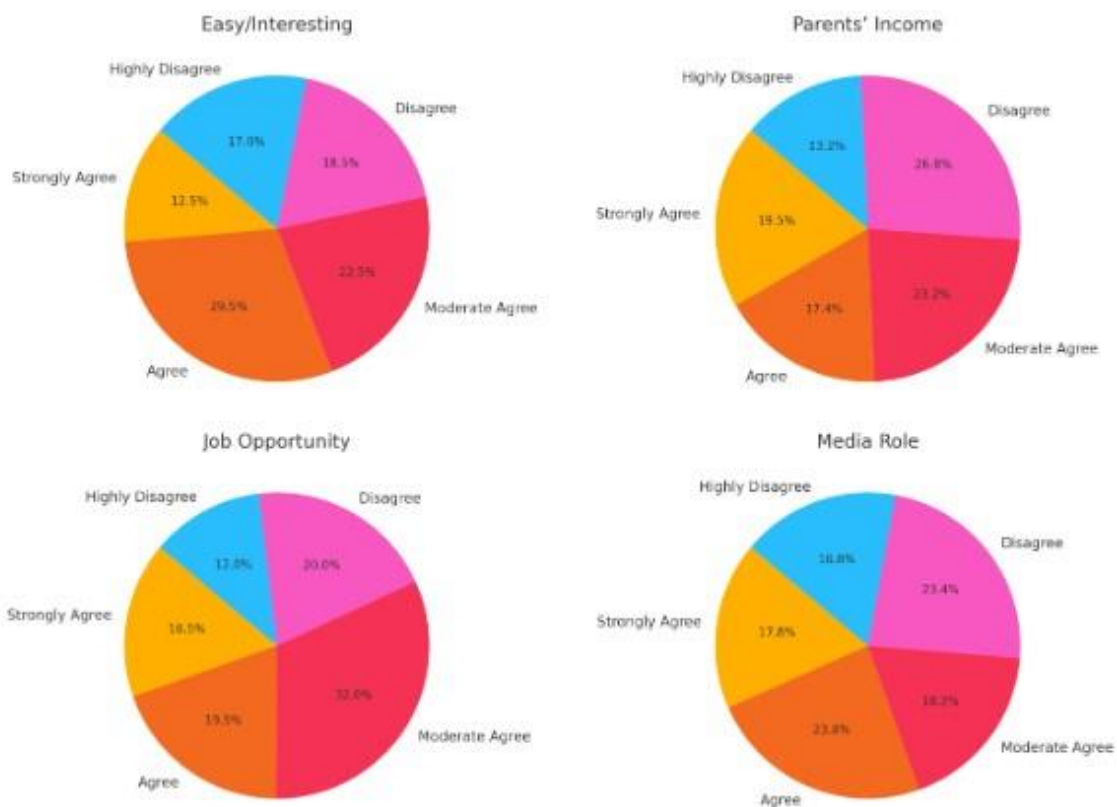


Table 2: Binary Logistic Model Estimates

	Co- efficient	SE Coef	Z-Value	P-Value	VIF
<b>Constant</b>	-2.000	0.740	-3.000	0.0001	
<b>Easy/ interesting</b>	0.200	0.060	3.344	0.0008	1.230
<b>Parents Income</b>	-0.140	0.060	-2.000	0.002	0.852
<b>Job opportunity</b>	-0.050	0.040	-1.250	0.211	0.951
<b>Media role</b>	0.300	0.080	3.750	0.0002	1.350

This regression analysis examines the relationship between several factors and a dependent variable. The results show that "Easy/Interesting" (Coef: 0.200,  $p=0.0008$ ) and "Media Role" (Coef: 0.300,  $p=0.0002$ ) have positive and significant effects, indicating they increase the dependent variable. "Parents' Income" (Coef: -0.140,  $p=0.002$ ) has a significant negative effect, suggesting a decrease in the dependent variable as income rises. However, "Job Opportunity" (Coef: -0.050,  $p=0.211$ ) is not statistically significant, indicating no clear impact. The low VIF values (all near 1) suggest no multicollinearity among the variables, and the significant predictors highlight key factors influencing the outcome.



## **Conclusion**

The study highlights critical determinants of subject selection among undergraduate students at the University of Baluchistan. Ease and interest in the subject, as well as the role of media, are positively correlated with students' choices, emphasizing the importance of intrinsic motivation and external information sources in academic decision-making. On the other hand, the negative impact of parents' income indicates that financial barriers remain a significant challenge for students, potentially limiting their academic opportunities. While job prospects appear relevant to students, their influence was not statistically significant in this study, suggesting that other factors outweigh career considerations at this stage of decision-making. These insights are essential for educators and policymakers aiming to develop strategies to guide students towards more informed and fulfilling academic choices. Initiatives that foster awareness of subject opportunities, alleviate financial barriers, and enhance media literacy could play pivotal roles in empowering students to make decisions aligned with their interests and future goals.

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