

Social Sciences Spectrum

A Double-Blind, Peer-Reviewed, HEC recognized Y-category Research Journal

E-ISSN: 3006-0427 **P-ISSN:** 3006-0419
Volume 05 **Issue** 04, 2026
Web link: https://socialsciencesspectrum.com/index.php/sss

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Exploring Students' Career Awareness at Intermediate Level in Faisalabad: A Cross-Sectional Study

Nazish Maddah[1], Muhammad Rashid[2], Javaid Iqbal Tabish[3] & Bushra Jabin[4]

Article Information [YY-MM-DD]

Received 2026-08-22 **Revised** 2026-09-25 **Accepted** 2026-10-24

Citation (APA):

Maddah, N., Rashid, M., Tabish, J, I & Jabin, B (2026). Exploring students' career awareness at intermediate level in Faisalabad: A cross-sectional study. *Social Sciences Spectrum*, *5*(4), 455-471. https://doi.org/10.71085/sss.05.04.636

Abstract

Career Awareness is crucial for student's informed education and career decisions. The present study was conducted to evaluate the career awareness, influencing factors on academic program choice and future education plans of intermediate level students of Faisalabad, Pakistan. The participants recruited for the study were 392 students of public and private colleges and higher secondary schools in a cross-sectional survey type, using a structured questionnaire that consisted of demographic items, multiple choice questions, and 5-point Likert Scale statements. The data were analyzed using IBM SPSS Statistics Version 23. Descriptive statistics and independent-samples t-test were used and $p < 0.05$ was considered statistical significance. For most, choosing a college major was done based on personal interest (68%), but other factors included parents, teachers, peers and social trends. The most prevalent current study program was Intermediate in Computer Science (53.8%) while the most common future field of study was Computer Science/Information Technology (40.1%). Female students were significantly more aware of career opportunities than male students ($p = 0.011$), and had higher support for career counseling services than male students ($p = 0.001$). The study concludes that; Career awareness was satisfactory but external factors played a significant role in students' choices about their education. The introduction of planned career counseling program in matriculation and intermediate might help to ensure that students are choosing subjects for their future learning that are suitable for their career goals.

Keywords: Academic Program, Adolescent, Career Awareness, Career Counseling, Educational Decision, Intermediate Students.

[1] Principal/Senior Subject Specialist: Education Department, Government of the Punjab, Faisalabad, 38000, Punjab, Pakistan

[2] Senior Subject Specialist/Assistant Professor: Education Department, Government of the Punjab, Faisalabad, 38000, Punjab, Pakistan

[3] M.Phil Scholar, University of Chenab (U Chenab), Gujrat, 50700, Punjab, Pakistan

[4] Lecturer: Department of Education, BUITEMS Sub Campus, University College of Zhob (UCoZ), 85200, Balochistan University of Information Technology, Engineering and Management Sciences, Balochistan, Pakistan

Corresponding Author: Muhammad Rashid, **Correspondence through:** mrpk007@gmail.com

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1. Introduction

Career awareness is generally well recognized as an integral part of adolescent development that helps young people to make informed choices about their learning pathways and future careers (Beiranvand et al., 2024). Career awareness in a broad sense is the knowledge of the world of work, the relationship between education and employment, and the awareness of interests, aptitudes and aspirations in relation to career opportunities. It is the initial phase of the career development process before career exploration and career planning and finally prior to a career decision (Choi, 2026).

Intermediate level students (Grades 11 and 12) must opt for one of the different academic streams such as pre-medical, pre-engineering, computer science, commerce, humanities and general science. The choices are consequential in a number of ways: they will determine the range of university programs that students can apply for; they will determine the career paths available to them; and they will impact their adult life. Although this represents important choices, there is significant evidence that many students at this level make their decisions without understanding the scope, requirements, career and job opportunities and demands of their chosen fields. The cross-sectional study conducted recently among students from secondary schools in Quetta, Pakistan, revealed that the majority of students were either moderately or less aware about career, with little information on career pathways and labour market requirements, and that formal career guidance services were only marginally present in their schools (Nisar et al., 2026). A cross-sectional study done recently in Pakistan revealed that there was a shift in the preference of students from pure sciences to computer science at intermediate level. Many of their academic program choices are based on career perceptions, parental expectations, social media influence and perceived job opportunities, showing that external factors are important in many of their decisions, more than informed career planning (Awais et al., 2026).

Today young people have come to access information via online platforms and social media more than ever before. The study conducted (Panhyar et al., 2025) identified that digital literacy is linked to civic awareness among youth in Pakistan, and there were discussions about the problem of misinformation and access to reliable information online. While civic awareness was the focus of their study, and not career awareness, the results indicate that critical information-evaluation skills are important as young people investigate educational pathways and future options using digital sources.

Adolescent student career decisions are impacted by a series of interrelated factors and especially so in lower and middle-income country settings. Consistently, parental expectations and family pressure have proved to be the major determinants of which academic stream the student selects for his/her studies; students often end up opting for academic streams not because they are interested in the subject or are suited for it, but because their families consider it to be prestigious or economically viable (Riaz et al., 2025). Individual decisions are also mediated by peer pressure and social comparison, which can push students into "competitive" streams, where they aren't necessarily well-suited for. Where teachers' advice is available, this can influence the guidance provided to students, but is very dependent on the teachers' knowledge and formal education in the area of career guidance. Socioeconomic conditions exacerbate these influences: student from lower-income families may contract their aspirations because of financial limitations, choosing a program that is perceived as being affordable instead of programs that are of interest to the student (Dulalas, 2026). Recent evidence from Pakistan shows that disruptions caused by the COVID-19 pandemic negatively impacted students' educational planning, access

to academic guidance, and confidence in future educational decisions. Students' career awareness and decision making processes can be affected by these issues in the long-term (A. Rashid et al., 2024). Put together, these dynamics raise the possibilities of academic dissatisfaction, dropouts, and career mismatches from decisions that are made under external pressures and not from a self-aware and informed choice. Socio-economic factors and dominant cultural attitudes can also limit access to and enrollment in education, as well as retention within educational systems, for girls. Early marriage was identified as a challenge in the study carried out by (Ezeodo, 2026), which underscored the need for parental support, community awareness and policies towards education of girls

The lack of a formal career guidance system is a systemic problem which increases the impact of lack of information on decision making in Pakistan. The level of career guidance and counselling services is still not developed or even absent in most of the secondary and intermediate institutions in the country. A study on a scale development in Pakistan found that the career-related needs of students in the area of Career Foresight, Career Self Awareness, and Career Difficulty Resolution are not very well covered in formal education system (Keshf et al., 2024). The impact will be at the intermediate level when students are expected to make high stakes academic decisions without "strategic access" to career information, vocational assessments, and professional counseling. The educational support provided in early schooling is important in developing confidence in students' learning and in their ability to make decisions. Improving guidance and support in education will help to better equip students to make important decisions such as selecting subjects and choosing a career path in Pakistan (M. Rashid, Fatima, et al., 2025). Another research conducted on career indecision among university students in Pakistan also revealed that career indecision persists even after going to university as there is no career guidance given during the school period and students rely on informal sources of information (family and peers) (SK ul Emman et al., 2025). This is further supported by a comparative systematic review that took place across developing country contexts which found that career counseling services, when offered, are known to increase students' awareness of career options, improve career maturity, and improve competence in decision making, supporting the integration of them at the pre-university level (Arinaitwe et al., 2025).

At the international level, the link between the concepts of career self-efficacy, career awareness and academic readiness in adolescents has gained increasing research interest. A systematic review revealed that career self-efficacy is associated with career awareness, and depends on both individual (personality traits, academic self-concept) and contextual (parental support, teacher mentoring, structured career interventions) factors (Nurgabdeshov et al., 2025). The constructs that have been reported as most sensitive to structured career education programs and with the highest intervention effect sizes in the meta-analytic evidence of school-based career education programs include career awareness and career maturity (Choi, 2026). The incorporation of new learning technologies, particularly AI-based learning systems, may create chances for tailored academic guidance and career resources. The integration of emerging learning technologies, particularly AI-driven learning systems, can create chances for personalized academic counseling and improved access to career information. These innovations facilitate evidence based decision making and might help in enhancing students' awareness of careers in secondary and intermediate education in addition to usual career counseling (Muhammad et al., 2025).

Faisalabad is one of the most important educational and industrial hubs of Punjab Province in Pakistan housing a huge and varied cluster of government and private colleges and higher

secondary schools, which serve thousands of intermediate level students annually. Although education is a pivotal aspect of the city's development, empirical data to assess the status of career awareness among intermediate students of Faisalabad are limited. The few studies conducted in similar Pakistani contexts like Quetta on the career preparedness of students and evidence of career choice uncertainty among students in Punjab indicate that problems in career guidance are not confined to a particular context but are systemic in nature, and hence Faisalabad is a contextually relevant and under-researched location of inquiry (Khan et al., 2022; Nisar et al., 2026). In addition to designing policy interventions based on this data, it is important to understand what factors are driving or hindering career awareness for this population so that appropriate guidance interventions can meaningfully impact students' educational and occupational outcomes.

Therefore, there is a need of exploring career awareness among intermediate level students attending colleges/schools of Faisalabad and to see the key sources of influence such as parents, teachers, peers and personal research that influence the choice of academic programs. The study seeks to provide context-specific evidence about this under-researched population to support the design of context-specific career counselling programs at the school and college level in Pakistan.

1.1 Objectives of the Study

The objectives of the study can be summarized as:

- To assess career awareness among intermediate-level students in Faisalabad.
- To identify the factors influencing students' academic program selection.
- To examine students' future educational aspirations.
- To compare career awareness and perceptions of career counseling between male and female students.

2. Research Methodology

2.1 Research Design

The descriptive cross-sectional research design was used in this study, with a quantitative approach in the research paradigm. A cross-sectional design was selected since it would provide data from a specific target population at one specific time and would be used to describe and quantify the prevalence of attitudes, perceptions and awareness levels within the target population. The quantitative approach was selected to enable measurement, comparison of numbers and making statistical generalizations based on patterns of career awareness of the intermediate level students. The instrument used was a structured and self-administered online questionnaire, which was used in most of the survey-based educational and social science research done in Pakistan.

2.2 Study Setting and Population

Sample size was calculated from Cochran formula for cross-sectional studies as follows (A. Rashid et al., 2024): $n = \frac{Z^2.p\,(1-p)}{E^2}$, Using a margin of error of 5% (Z = 1.96), estimated proportion of the population (p = 0.50), and a confidence level of 95%, the minimum sample size to estimate the population proportion was determined to be 385 participants. Sample size was calculated using a finite population correction (FPC) but the total population of intermediate level students in Faisalabad is 184,569 which did not significantly affect the required sample

size. The 97,696 Grade 11 students were 38,433 males and 59,263 females; and the 86,873 Grade 12 students were 34,163 males and 52,710 females (from Gazettes of Board of Intermediate and Secondary Education, Faisalabad, https://www.bisefsd.edu.pk/). Hence the least number of sample students considered was 385 for statistically reliable and representative results.

Due to the difficulty to access the entire population of students enrolled in numerous public and private colleges and higher secondary schools of Faisalabad, non-probability snow ball sampling technique was used to recruit participants for the study. The online questionnaire was shared via student networks, social media groups (e.g., WhatsApp and Facebook). There were 392 complete and valid responses received and analyzed. This exceeded the minimum sample size of eight participants to give more precise estimates and more reliable conclusions from the study. The questionnaires which were completed fulfilled the study's inclusion criteria and were used in the statistical analysis.

2.3 Sampling Technique Data Collection Period

A non-probability snowball sampling technique was adopted to recruit study participants as this is widely used and accepted in social science research in snowball sampling. The technique is used when the target population is large, widespread and institutional access channels are not available (Ting et al., 2025). The data collection was done for five months between March 01, 2026 and July 31, 2026.

2.4 Data Collection Instrument and Procedure

Google Doc Forms were used to collect all the data which was then exported to MS Excel and then to IBM SPSS V-23. Responses were quantified using a five point Likert-scale which was numbered from strongly disagree (1) to strongly agree (5) statements were used to enable systematic quantification and statistical analysis of career awareness and its influencing factors. For each item descriptive statistics (mean and standard deviation) were computed. To compare the gender difference, independent sample t-test was applied. The online based questionnaire link was shared in WhatsApp and Facebook groups and in other online platforms which are used by the intermediate level students in Faisalabad.

2.5 Data Analysis

At the end of the data collection time, all the answers to the questionnaires were downloaded into MS Excel and used for basic data cleaning and screening. The data were then imported into SPSS Version-23 for formal statistical analysis.

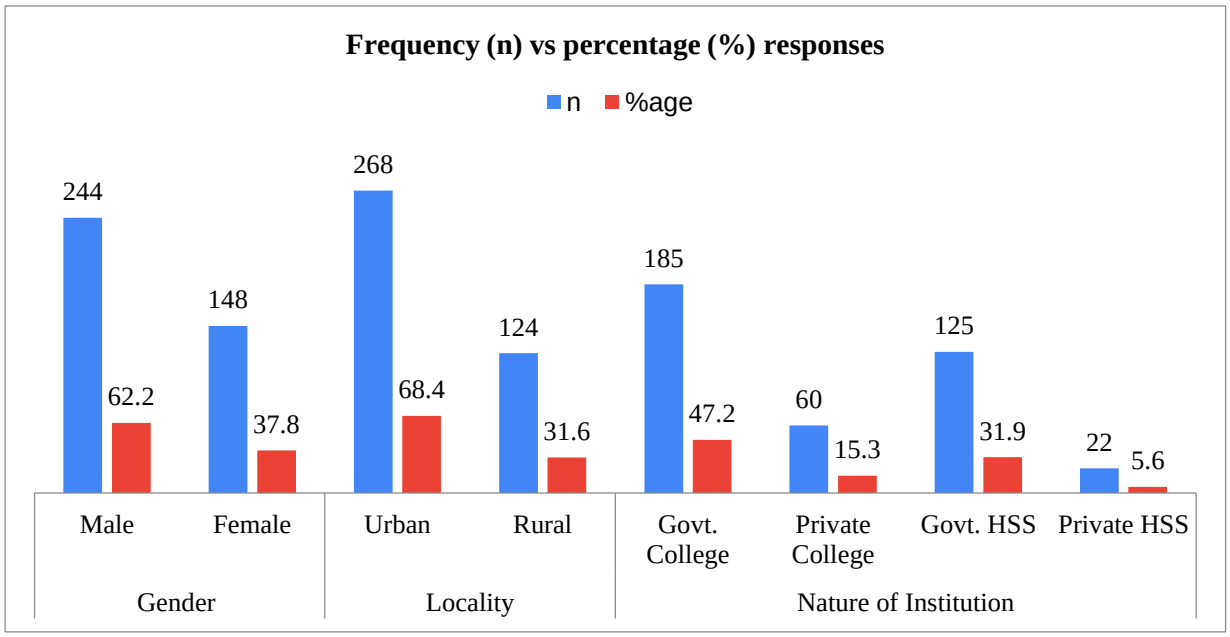
2.6 Ethical Considerations

The study was carried out following the ethical guidelines for research with human subjects. The introduction to the purpose of the study, the academic nature of the study and the confidentiality of the responses was included at the beginning of the questionnaire. The respondents were free to refuse or withdraw at any time without penalty, and participation was completely voluntary. Informed consent was considered by assuming that completion of the questionnaire indicated informed consent. The study was anonymous and confidential because no personally identifiable information was gathered throughout the study and individual responses were anonymous and could only be given to the researchers.

3. Results

A total of 392 intermediate students from public and private colleges and higher secondary schools (HSS) of Faisalabad were studied. The socio-demographic profile of the respondents is given in **Figure 1**. The results reveal that majority of the respondents were male (n = 244, 62.2%) while 148 (37.8%) were female. Geographically, the majority of participants were in urban areas (n = 268, 68.4%) and 124 (31.6%) in rural areas. In relation to the type of educational institution, almost half of the respondents (n = 185, 47.2%) were studying in government colleges which was the highest institutional category in the present study. This was followed by government higher secondary schools (HSS) (n = 125, 31.9%), private colleges (n = 60, 15.3%), and private HSS (n = 22, 5.6%). The distribution shows that students from public and private education institutions were included in the survey but that there were more students from the public institutions.

Figure 1: *Demographic distribution of the respondents with respect to gender, locality and nature of educational institution (N = 392).*



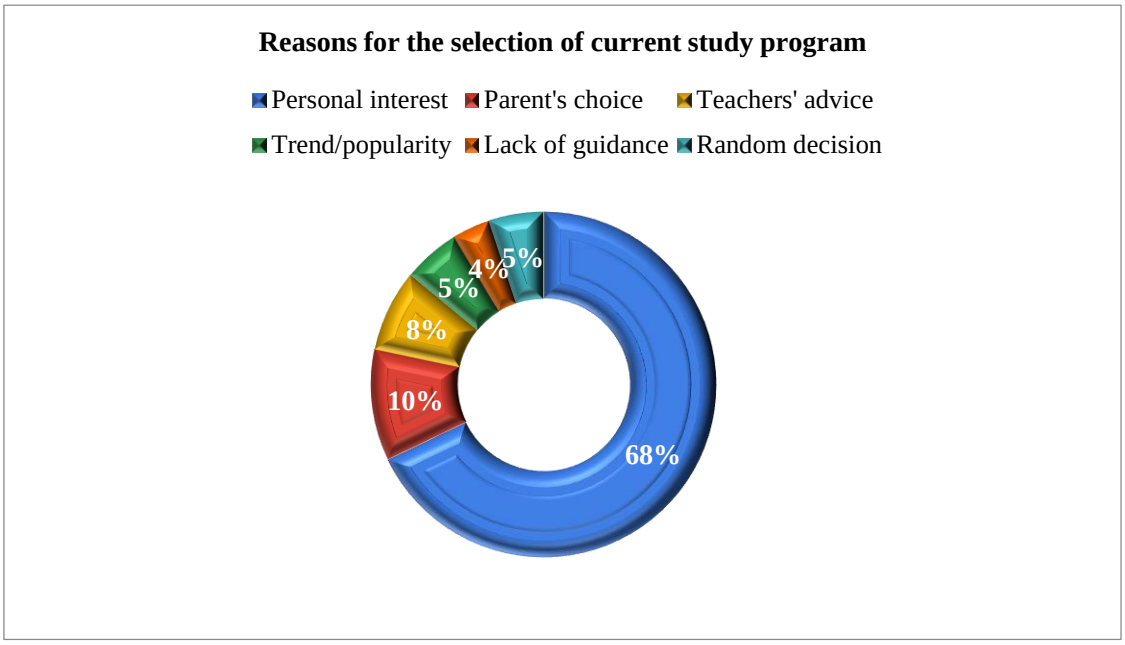
In the second section of the questionnaire, the participants were asked about the main reason for choosing their current intermediate study program. The distribution of responses is shown in **Figure 2.**

As presented in figure 2, the majority of the students (68%) said that for choosing their present educational course, personal interest was the major criterion. The second most frequent reason cited (10%) was parents' choice. Much smaller percentages of students cited teachers' recommendations (8%), the trend or popularity of the discipline (5%), random choices (5%), or lack of guidance (4%) as reasons for choosing their programs.

The other query in this section which shows the comparison of the students' present courses and what they wish to study in the future is denoted in **Table 1**. The most popular intermediate programs were Intermediate in Computer Science (ICS) (53.8%) and Pre-Medical (21.4%) students. Smaller proportions of respondents were enrolled in “Other” programs (n = 24, 6.1%),

Pre-Engineering (n = 23, 5.9%), F.A. (n = 21, 5.4%), I. Com (n = 17, 4.3%), and F.Sc. (General Science) (n = 12, 3.1%).

Figure 2: *Frequency response (%) for the selection of current study program.*



The same was true for students' future educational goals. It was found that studies in Computer and Information Technology (IT) was the most common field of study (n = 157, 40.1%) indicating the increasing trend of studies in computing related disciplines among intermediate students. Medical sciences (n = 68, 17.3%) and Engineering (n = 56, 14.3%) were the second most preferred future field. Other planned fields included "Others" disciplines (n = 46, 11.7%), Business and Commerce (n = 35, 8.9%), Social Sciences (n = 16, 4.1%), and Arts and Humanities (n = 14, 3.6%).

Table 1: *Compression of frequency response for current study program and future study plan (N= 392).*

Variables	Current study program; n(%)	Variables	Future study program plan; n(%)
Pre-Medical	84(21.4)	**Medical**	68(17.3)
Pre-Engineering	23(5.9)	**Engineering**	56(14.3)
ICS	211(53.8)	**Computer/IT Field**	157(40.1)
I.Com	17(4.3)	**Business/ Commerce**	35(8.9)
F.A	21(5.4)	**Social Sciences**	16(4.1)
F.Sc (General)	12(3.1)	**Arts/ Humanities**	14(3.6)
Others	24(6.1)	**Others**	46(11.7)

Third section of the questionnaire contains queries regarding awareness of the program selected and influences on the choice of program. **Table 2(a)** shows summary data on the students'

perceptions of their awareness of the career programs and **Table 2(b)** denotes the factors that influenced their program selection.

Based on the results of table 2(a), it was seen that 43.9% of the respondents agreed and 24.7% strongly agreed that they had a good understanding of the scope of their selected intermediate program, 15.6% were neutral, and 15.9% disagreed or strongly disagreed. The mean response score was 3.699 ± 1.154. The difference between the male and female respondents did not differ significantly (p = 0.052). Likewise, 48.2% responded with a positive attitude and 18.4% responded strongly that they had sufficient information about career options of their subjects (Q2), while 17.1% responded negatively and strongly. The mean score was 3.599 ± 1.126. The statistically significant gender difference was found for this statement (p = 0.011) which meant that there was a significant difference between male and female students in terms of their perception of career-related information.

Table 2: *(a) - Awareness and Program Selection; frequency responses n (N = 392)*

Sr.	Statements/ Variables	Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)	Mean ± SD	P-value
Q1	I clearly understood the scope of my selected intermediate program.	30(7.7)	32(8.2)	61(15.6)	172(43.9)	97(24.7)	3.699 1.154	.052
Q2	I had proper information about career options related to my chosen subjects.	31(7.9)	36(9.2)	64(16.3)	189(48.2)	72(18.4)	3.599 1.126	.011
Q3	I selected this program after personal research and information gathering.	29(7.4)	47(12.0)	74(18.9)	176(44.9)	66(16.8)	3.518 1.128	.340
Q4	My teachers/school counselors guided me in selecting this program.	50(12.8)	67(17.1)	62(15.8)	153(39.0)	60(15.3)	3.270 1.271	.462
Q5	I knew the future of higher education opportunity is linked with this program.	29(7.4)	25(6.4)	69(17.6)	185(47.2)	84(21.4)	3.689 1.103	.130
(b) - Influence on Choice of Program (N = 392)								
Q6	My teachers influenced my program selection.	39(9.9)	75(19.1)	96(24.5)	131(33.4)	51(13.0)	3.204 1.186	.419
Q7	My parents influenced my program selection.	30(7.7)	48(12.2)	78(19.9)	169(43.1)	67(17.1)	3.497 1.140	.882
Q8	My friends and peers influenced my program selection.	47(12.0)	73(18.6)	81(20.7)	139(35.5)	52(13.3)	3.194 1.232	.366
Q9	Social trends influenced my decision.	31(7.9)	46(11.7)	100(25.5)	162(41.3)	53(13.5)	3.408 1.107	.367
Q10	I chose this program due to family expectations rather than personal	53(13.5)	89(22.7)	81(20.7)	118(30.1)	51(13.0)	3.064 1.261	.595

Sr.	Statements/ Variables	Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)	Mean ± SD	P-value
	interest.							
Q11	I feel confident about my future academic direction.	33(8.4)	34(8.7)	58(14.8)	184(46.9)	83(21.2)	3.638 1.156	.077
Q12	I think that career failure can result from a lack of guidance during subject or program selection?	38(9.7)	31(7.9)	67(17.1)	179(45.7)	77(19.6)	3.577 1.175	.226
Q13	I think that career counseling should be provided at school/college level?	26(6.6)	21(5.4)	63(16.1)	151(38.5)	131(33.4)	3.867 1.137	.001

Results indicate that 44.9% agreed and 16.8% strongly agreed to choose their study program after personal research and information gathering (Q3), while 18.9% indicated that they were neither for nor against it. The mean score was 3.518 ± 1.128, with no significant gender difference (p = 0.340).

In the case of teachers or school counselors' guidance (Q4), 39.0% agreed and 15.3% strongly agreed that they had received such guidance prior to choosing their academic program. But some 29.9% disagreed or strongly disagreed and 15.8% were neutral. The average score for this item was 3.270 ± 1.271 and there was no significant difference between males and females (p = 0.462). Most responses (68.6%); 47.2% agreed and 21.4% strongly agreed that they knew about future higher education opportunities that were connected to their chosen academic stream (Q5). The overall mean score was 3.689 ± 1.103, which was not significantly different between males and females (p = 0.130).

Data from table 2(b) reflects that; teachers' influence (Q6) is reflected in data from part b of table 2 with 33.4% agreeing and 13.0% strongly agreeing that teachers influenced their program choice, and 29.0% not agreeing or strongly disagreeing. The mean score was 3.204 ± 1.186, which was not significantly different between the genders (p = 0.419). A substantial number of students reported parental influence (Q7) with 43.1% agreeing and 17.1% strongly agreeing that their parents influenced their academic program selection. The mean score was 3.497 ± 1.140 and no significant difference was found between males and females (p = 0.882).

As far as friends/peers influence (Q8) was concerned, 35.5% agreed or strongly agreed that it affected their choice, while 30.6% strongly disagreed or disagreed. The mean response was 3.194 ± 1.232 with no significant difference between the genders (p = 0.366). Students were also asked if social trends had an impact on their academic decisions (Q9), with 41.3% agreeing and 13.5% strongly agreeing, thus giving a mean score of 3.408 ± 1.107. No statistically significant difference was found between the genders (p = 0.367). When asked if family expectations affected their program choice, not due to personal interest (Q10), 30.1% agreed and 13.0% strongly agreed, with 36.2% disagreeing or strongly disagreeing. This item had the lowest mean score (3.064 ± 1.261) in this section and the gender difference was no significant (p = 0.595).

Most respondents were confident about their decision to pursue their studies in the future (Q11) with 46.9% agreeing and 21.2% strongly agreeing. The mean score was 3.638 ± 1.156 and there was no significant difference between the sexes (p = 0.077). Concerning the feeling of not having been guided appropriately in subject or program selection, the mean score of 45.7% who

agreed and 19.6% who strongly agreed (3.577 ± 1.175) indicates a perception that this may lead to career failure. There were no significant differences between the answers of male and female students (p = 0.226).

Last, students endorsed the provision of career counseling at the school or college level (Q13) very strongly. The majority of respondents (38.5% agreed, 33.4% strongly agreed) were in favor of offering school career counseling services, and 12.0% disagreed. This item had the highest mean score (3.867 ± 1.137) out of all items. Furthermore, the difference between male and female respondents was found to be statistically significant (p = 0.001) demonstrating that the perception about the need of career counseling among male and female respondents were statistically different.

An independent-samples t-test was performed to compare male and female responses for the two questionnaire items (Q2 and Q13) that demonstrated statistically significant differences in Table 2. The results are presented in **Table 3**. For Q2 ("I had proper information about career options related to my chosen subjects"), female students reported a significantly higher mean score (3.777 ± 0.989) than male students (3.492 ± 1.192). Since Levene's test indicated unequal variances (F = 10.917, p = 0.001), Welch's t-test was used. There was a statistically significant difference between the two groups (t = 2.559, df = 353.960, p = 0.011).

Likewise, when the respondents were asked about the "Career counseling should be offered at the school/college level" (Q13), significant difference was found between the female (4.101 ± 1.035) respondents and male (3.725 ± 1.173) respondents. Levene's test was significant (F = 8.094, p = 0.005) so the Welch's t-test was used. The difference was statistically significant (t = 3.312, df = 340.398, p = 0.001).

Table 3: *Independent Samples Test for significance.*

				Levene's Test for Equality of Variances		t-test for Equality of Means						
	Gender	**Mean**	**Std. Deviation**	**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
											Lower	**Upper**
Q2	Female	3.777	.9885	10.917	.001	2.446	390	.015	.2852	.1166	.0559	.5145
	Male	3.492	1.1915			2.559	353.960	.011	.2852	.1114	.0660	.5044
Q13	Female	4.101	1.0350	8.094	.005	3.212	390	.001	.3759	.1170	.1458	.6060
	Male	3.725	1.1734			3.312	340.398	.001	.3759	.1135	.1527	.5992

4. Discussion

The present study aimed to explore the career awareness, influencing factors for the enrolment in career programs and future educational aspirations of intermediate students in public and private colleges and higher secondary schools of Faisalabad. The demographic profile revealed that male respondents made up a larger percentage of the respondents than the females, and the urban respondents were more numerous than their rural counterparts. Additionally, majority of the participants were attending government educational institutions. The higher proportion of urban students could also be attributed to a greater ease of access to Internet facilities and online survey forms, since these were sent out through electronic means (Lateef et al., 2025). The

generalizability of the results of this study may be affected by these demographic factors, but the students were selected from public and private schools, urban and rural areas, giving a thorough picture of the students' awareness about job prospects in intermediate level in Faisalabad.

A significant result from the present study is that 68% of the selected students chose their current academic program based on their personal interest while 10% chose their program due to their parents' choice. The contributions of advice from teachers, social trends, random decisions and lack of guidance were relatively small. This outcome is similar to the study that found that students feel more empowered when it comes to making decisions on their learning and education instead of entirely relying on what others have to say (Nayia Sharma, 2024). A number of other studies have also found that interest in a field and self-evaluations during adolescence are important factors for career decisions (Momin et al., 2016; Patton et al., 2001). Career Development Theory further suggests that people have a greater tendency to stay on academic programs that match their interests and competencies (Super, 1980).

Although most of the research was personal interest based, the results also show that parents are still important in student's educational decisions. About one tenth of the respondents mentioned parental choice as their main reason for choosing their study program, and even a much higher percentage of respondents noted parental influence in answering the Likert-scale items. This seemingly gap suggests that parental expectations positively continue to shape the educational planning of students indirectly (Ghosh et al., 2016). This has also been noted in the educational context of the South Asian countries, where the parental aspirations, socioeconomic factors and family expectations significantly influence the academic decisions of students (Noor et al., 2024). In a collectivist society like Pakistan, parents play a vital role in students' career planning as their involvement is often necessary in the educational process, therefore, their guidance is supportive and influential (Lent et al., 2019).

When examining where students currently enrolled differed from where they planned to go next in their studies, it was evident that students preferred to pursue a computer science and information technology focus. Over 50% of the respondents were studying Intermediate in Computer Science (ICS) and about one in five intended to go on to further learning in Computer Science or Information Technology. The result is in accordance with the study carried out (Awais et al., 2026) and shows significantly growing popularity of computing related disciplines among students of Pakistan. Students' interest in technology-oriented careers has been greatly boosted by the growth of artificial intelligence (AI), software development, cyber security, data science, and digital entrepreneurship (Yupelmi et al., 2024).

The results of the career awareness findings were somewhat positive. Over two-thirds of the respondents agreed they had a good understanding of the breadth of their chosen academic disciplines, and a similar number felt they had sufficient knowledge of the next step in their education for their selected subjects. Career awareness is noted as a critical precursor to good planning for education and training, and students with some understanding of the connections between subject areas and careers will be better prepared to make realistic and satisfactory career decisions (EPHRAIM, 2026; Nayia Sharma, 2024).

This study also reveals that there are significant gaps in the provision of career information. Almost a third of the respondents said they were not well-informed by their teachers or school counselors on choosing academic programs. This is significant because career counseling is a service that is not found in many secondary schools and colleges in Pakistan (Noor et al., 2024). In the education literature, similar issues have been raised in previous studies, which have

focused on the need for adequate career advice often provided informally by others or through peer influence, instead of through systematic career planning (EPHRAIM, 2026).

The study reveals that one of the most powerful external factors on program selection was parental influence, with about 60% of those who responded agreeing that their parents had an impact on their educational decisions. Students' decision making was also influenced by the teachers and by the peers, but to a relatively lesser extent, as well as by prevailing social trends. Previous research in Punjab shows that parental awareness and involvement, the availability of teachers and facilities, and the perception of the quality of the educational environment can have a significant impact on students' preferences for public or private intermediate education and could be further taken into account in analyzing academic choices among students (M. Rashid, Rashid, et al., 2025). This agrees with Social Cognitive Career Theory, which suggests that the interaction of beliefs, social support, and environment is a factor in a person's career decisions (Lent et al., 2013, 2019).

A positive result was that the majority of students indicated that they were confident of their future academic pathway and were aware that making an incorrect choice of subjects at the beginning of their schooling could lead to an unsuitable career. Moreover, there was the greatest degree of agreement with the statement that career counseling services should be made available at the school and college levels. Over 70% agreed to the importance of implementing structured career counseling programs. This is in line with international literature that shows that early career guidance is associated with increased students' education confidence, career adaptability and decision-making competency (Hirschi, 2009; Patton et al., 2001). AI's use in career counseling could complement and further improve access to tailored career insights and career advice, especially in regions of limited career counseling services, but with proper technological infrastructure, trained counselors, governance and sensitivity to the educational and cultural landscape, AI could make a meaningful (Bano et al., 2026).

In the questionnaire, two items were statistically different based on gender. Female students had significantly higher awareness of career opportunities related to their selected subjects than males and also had greater support for career counseling services. The results indicated that while there were no statistically significant differences among male and female students on the other questions in the questionnaire, the results may imply that female students may be more sensitive to the importance of educational information and institutional advice in decision making for their careers (Hirschi, 2013). Similarly, previous studies have shown that female learners are often more likely to engage in career planning and educational counseling services, especially when there is a high level of competition for educational opportunities (Damas et al., 2025).

Overall, the findings suggest that overall there is a satisfactory level of awareness of the students of intermediate level of Faisalabad in the field of career and family expectations and other environmental influences are also affecting the students in the selection of their career. The institutional career counselling support is relatively high, which shows the necessity of implementation of an overall career counselling system in Pakistani school and colleges (Noor et al., 2024). These would enable students to make suitable educational decisions, in accordance with their interests, talents and future career plans (Lent et al., 2013). The findings offer important insights into students' experience of their school choices, the factors influencing their decisions and the need for the development of career guidance at secondary and intermediate levels of formal education, (EPHRAIM, 2026) and serve as a guide for educational and career

guidance in SEK schools. The results offer important elements to guide school and career guidance in SEK schools and can serve as a guide for educational and career guidance at the secondary and intermediate levels of formal education. In general, the findings indicate that, while a significant number of students expressed their reasonable knowledge of their chosen academic programs and further study opportunities, parents, teachers, peers and social trends still have a great impact on students' educational choices (Lent et al., 1994; Noor et al., 2024). These findings reinforce the importance of strengthening career counseling services to enable students to make informed and interest-based academic choices (Sahito et al., 2025).

5. Conclusion

This study analyzed career awareness and the factors affecting choice of academic program for intermediate level students of public and private colleges and higher secondary schools of Faisalabad, Pakistan. The results show that while a majority of students made their choices of study programs based on their personal interests, they also had reasonable knowledge of the subjects they selected and their prospects for further education, the parents, the teachers and the peers also played a role in the students' choice of programs, as well as the social trends. The rise in the numbers of students studying computer science and information technology is also a reflection of the changing educational and career aspirations of current students. The study also revealed that poor professional career guidance before subject selection and female students reported significant awareness of career opportunities and their support for career counseling when compared to male students. The support expressed by the overwhelming majority for the introduction of career counseling services indicates the need of structured guidance at school and college level.

The results support the necessity to develop complete career counseling programs, carry out career awareness activities regularly, and enhance the cooperation between educational institutions, parents and career professionals. At secondary and intermediate level, career guidance can be improved to support students in making informed decisions on academic choices which are in line with their interests, abilities and career interests.

6. Recommendations

1. Education institutions need to have or improve formal career guidance services for intermediate students to help them determine their interests, competencies, and career prospects before choosing academic programs and/or future careers.
2. Parents should be engaged in career guidance activities while taking into account their children's interests, abilities, and aspirations. A balanced approach will assist students in making informed educational and career decisions.
3. Educational institutions and authorities should disseminate information on scholarships, financial aid, and educational opportunities to disadvantaged groups.
4. Career counseling must be gender neutral and free of gender stereotype. All students, boys and girls, need to be encouraged to explore academic programs and professions based on their interests and abilities.
5. Future research should involve students from diverse institutions and regions with larger and more representative samples. Future studies might use a longitudinal or qualitative approach to determine the changes in career decision making as students move from first to second year of college, and the impact of family expectations, socioeconomic factors, gender, and college counseling services.

Limitations of the Study

This study is limited by non-probability sampling and a cross sectional study design; the results offer some evidence for educational policymakers. Larger, multi-regional samples as well as longitudinal designs are recommended for further research to explore students' career awareness and their educational decision-making processes.

Conflict of interest

The authors declared that they have no conflict of interest.

Funding

The research article didn’t receive any funding.

Authors Contribution

NM, MR, JIT & BJ: NM; contributed to the conceptualization, study design, development of the study data collection, MR; manuscript preparation, review, supervision and submission handling, JIT; methodology development, data analysis, interpretation of results and manuscript preparation, and BJ; critical revisions of the manuscript and editing of the final manuscript. All authors took part in the final revision of the article and approved the final manuscript.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgement

The authors would like to thank all those intermediate students who gave their valuable response to complete this research.

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