Unveiling Gender Dynamics in Career Decision-making: Insights from students of University of Technology and Applied Sciences, (UTAS) Sultanate of Oman

Diana Fernandez [a++*], Renjith Kumar Raveendran [b++] and Nahid Abdullah Sulaiyam Al Shukaili [b++]

[a] *Accounting and Finance, Department of Economics and Business Administration (DEBA), University of Technology and Applied Sciences (UTAS), Nizwa, Oman.*
[b] *Marketing, Department of Economics and Business Administration (DEBA), University of Technology and Applied Sciences (UTAS), Nizwa, Oman.*

Original Research Article

ABSTRACT

This study explores gender differences in career decision-making among students at the University of Technology and Applied Sciences (UTAS) in the Sultanate of Oman. A sample of 380 students, selected using stratified random sampling from a total student population of 35,037, participated in the study with 179 responses received, reflecting a response rate of 47.1%. The sample was proportionally distributed based on the number of students enrolled at each campus, ensuring representation from all university branches, including Muscat (13,000 students), Nizwa (4,697 students), Salalah (3,528 students), Ibra (3,267 students), Ibri (2,682 students), Shinas (3,202 students), and Musannah (4,661 students). Data was collected through a structured 40-item questionnaire, which included seven subscales: educational, on-the-job training, university, financial, personality, social, industrial (focused on Tourism, manufacturing, and technology), and governmental factors. Participants rated items on a five-point Likert scale. Independent samples t-tests and factor analysis were used to analyze the data. Factor analysis was conducted to identify underlying factors influencing career choice. The factor analysis revealed eight key factors influencing career choices: University factors, Government initiatives in the manufacturing sector, Monetary benefits, Personality traits, Technology sector opportunities, Academic performance, Tourism opportunities, and Student involvement. Independent samples t-tests revealed significant gender differences in perceptions related to career guidance and counseling services, career placement services, personal interests in career decisions, and on-the-job training opportunities, with female students generally expressing more positive views than male students. These findings underline the importance of enhancing career counseling and placement services, increasing on-the-job training opportunities, and integrating personal interests into career counselling to support gender-inclusive career development.

Keywords: Career choice; gender differences; career guidance and counselling; career placements; university factors; personality traits; technology and tourism sector opportunities.

1. INTRODUCTION

University students' career choices are shaped by multiple factors, including academic experience, personal interests, and perceptions of different industry opportunities. This study examines how these factors affect male and female students differently, focusing on areas such as career certainty, alignment with career goals, the influence of government and academic initiatives, monetary benefits, personality traits, technology and tourism sector opportunities and student involvement. By using independent sample t-tests, we aim to uncover significant gender-based differences and provide insights to help improve career guidance and support services for all students. Additionally, factor analysis is used to identify underlying factors influencing career choice, further enhancing the understanding of what drives students' career decisions.

1.1 Objectives of the Study

1. To find out the association between gender and career choice of students.
2. To identify the significance between gender and independent factors influencing career choice.

2. LITERATURE REVIEW

Noteboom, Crandall, and Noteboom (Noteboom et al., 2024) explore the role of parents in influencing adolescents' career decisions, particularly in the field of Information Systems (IS). The study highlights how parental perceptions can shape career choices and emphasizes the importance of initiatives aimed at raising awareness of IS careers among middle school students, ultimately aiming to meet the increasing demand for skilled professionals in STEM fields. Hadi et al., (2023) investigated the influence of gender perceptions on career decisions of high school students and found that gender, as a social construct, significantly influences career choice trajectories, emphasizing the importance of understanding its impact on career decision-making in educational environments. Ooro Hellen, (2017) determined the factors influencing choice of careers among university students in the school of Business and Economics in Kisii University. The study concluded that gender has strongly influenced the student's career choice. Maxwell (2015) investigated factors influencing career choices among Senior Secondary School Students in

Rivers State, Nigeria. There were significant differences among male and female secondary school students in their career choices in terms of: Prestige of a profession. Muhammad & Nosheen, (2014) aimed to identify major factors which induce Pakistani graduates while making their career choice. They investigated whether career choice factors vary across gender and among leading professions like management, agriculture, engineering, medical and pharmacy. Females seemed more socially inspired as compared to their male counterparts while making a career choice. Siriwan (2011) investigated factors that drive the career decision-making of Thai and Australian tourism and hospitality students. The findings identified several factors of particular importance were gender, the feedback students received during work-placement, family obligations and career opportunities in the industry. Jeofrey (2017) investigated factors that influence the choice of career pathways among high school students in Midlands Province of Zimbabwe The study revealed that family members had an influence on students' choice of careers. Schools had an impact on high school students' choice of careers. Career guidance, geographical location of schools, influence of peers, choices of careers through peer advice and encouragement was cited as having a positive impact on students' choice of careers. However, the influence of gender on career choice was lowly rated. In other words, gender did not influence the students' choice of careers. Onnur and Hakam (2020) determine the career decidedness of college students in the field of sports sciences and to examine this decidedness according to different variables such as gender, age, work experience and department in Turkey. The level of decidedness of male participants was higher than females. A positive correlation was found between the participants' age and work experience parameter and career decidedness. It was found that male participants had higher levels of career decidedness than female participants. Roknuzzaman (2021) investigated the factors determining the students' career choice and find out their job preparedness strategies. The study revealed several factors involving students' family preferences, teachers' advice, job prestige, job security, remunerations, scope of promotion, scope of pension, scope of professional development, personal interests, academic majors, educational attainments and career. Development training courses have significant association with the students' career decision-making. However, gender and social class did not have significant effects on the students' career. Yessy et al., (2018) determined the influence of sociodemographic and work motivation on student career choices in the private sector, public (government), and entrepreneurial intentions. There is a significant relation between gender and career choice. Women have more maturity in career choice than men. Maina (2013) investigated the factors that influence career choice among undergraduate students. The study investigated family factors, role of peers, role models and the role of gender influencing career choice among the students. Peer and gender factors had an equal influence on the choice of career. Stephen, Julie and Andrew (2022) explored the differential impact of job automation for different groups of primary and secondary school students in the UK. Results indicated that students aged 13 years old and above were more than twice as likely to express an occupational aspiration associated with a high risk of automation, along with a higher proportion of male students. Ryan (2011) explored what influence academic achievement, gender, and demographic variables may have in the relationship between personality traits and career decidedness. Academic and demographic factors overall were not as informative in explaining career decidedness. Personality traits and age provided the best combination for explaining variance in career decidedness. According to the results of Gati et al., (1995) on career decision making and gender variable, no statistically significant difference was found between male and female participants. According to the results of the study conducted by Migunde et al. (2012), no difference was found in the career instability of male and female students. Egbo et al., (2022) revealed among others that there is no significant difference in the mean ratings regarding the influence of parental factors on the choice of career between male and female students.

Osi (2018) claimed that socio-economic status has significant effect on students' career choice while gender and the type of school do not have such effects on their choice. Cheung, Wan, Fan, Leong, and Mok (2013) reported that parents and teachers have more influence on girls than boys in terms of career choice. Durosaro and Nuhu (2012) established in their study that gender was a very significant factor in the career choice of senior secondary school students in Ilorin Metropolis. Hellen et al., (2017) studied that choosing the right career choice is more crucial for the youth as they have to take into

consideration various things like peer pressure, parental advice, age, and gender. They found gender strongly influenced the student's career choice. Sadia et al. (2022) made evident from their study that male and female students have divergent perceptions regarding career choices; where female students were more interested in the teaching profession, while male students opted for jobs other than teaching.

3. RESEARCH GAPS

Most research on career choice has primarily focused on factors such as age, family influences, parents, and other demographic and personality traits, with relatively little attention given to the role of gender. Although some studies have addressed this aspect, there is still a lack of detailed analysis on how gender influences career decisions and its contributing factors. Siew et al., (2019) highlighted the importance of including gender to provide a more comprehensive understanding of career predictors, and Abe and Chikoko, (2020) suggested further exploration to confirm existing findings. Notably, such studies are limited in the context of Oman. This study aims to address these gaps by investigating the role of gender in career choice and its determinant factors.

4. RESEARCH METHODOLOGY

The research methodology employed in this study adopted an analytical and quantitative approach to systematically explore the intricate relationships between various factors and career choices. The sample consisted of 380 students (Krejcie & Morgan, 1970) proportional to the population of 35,037 students. (Source: University registration department) selected using a stratified random sampling. The data were collected from 179 students. The study collects demographic data alongside primary data using a structured questionnaire consisting of 40 items. The items were divided into seven subscales, namely educational, university, financial, personality, social, industrial (Tourism, manufacturing and technology related) and governmental factors. Respondents rated these items on a five-point Likert scale ranging from 1 to 5.

5. ANALYSIS OF THE STUDY

5.1 Factor Analysis

The Kaiser-Meyer-Olkin was measured for sampling adequacy. The KMO statistics vary between 0 and 1. For this data the value is 0.802, which falls in the range of good (Hutcheson & Sofroniou, 1999). Therefore, factor analysis is appropriate for these data. Bartlett's measure tests the null hypothesis that the original correlation is an identity matrix. For factor analysis to work some relationships between variables and if the R-matric were an identity matrix then all correlation coefficients would be zero. For the test to be significant, the significance value should be less than 0.05. For this data, Bartlett's test is highly significant (p < 0.001) and therefore factor analysis is appropriate. These results also suggest that the items of the survey's constructs have a highly significant correlation, resulting in factorial analysis.

5.2 Principal Component Analysis

Component loadings give coefficients that describe the unique relationship between each item and each factor. All of these coefficients are above the 0.50 level to suggest a "salient" loading. This is a "clean" solution as there are no complex items and the factor loadings for each item onto its primary factor is above the salient threshold. From the component loadings, it is revealed that career guidance and counselling (0.826), academic advising and mentorship (0.810), career placement services (0.728), easy access to career guidance (0.707) and interactions with alumni (0.692) are loaded heavily on component 1, based on the loading size of coefficients. Thus component 1 can be termed as "*University factors*". The career choice factor that is heavily loaded on component 2 are government efforts to streamline the public sector, government policies to encourage SMEs, opportunities in public administration, regulatory changes in business new employment prospects in the manufacturing sector and opportunities in manufacturing sector. Therefore, component 2 factor is renamed as "*Government initiatives on manufacturing sector*". The factors that are heavily loaded on component 3 are influence of finance resources, socioeconomic factors and salary and benefits and these are renamed as "*Monetary benefits*". The career choice factors that are heavily loaded on component 4 are students' interest, qualities, and willingness to take risks. These factors are renamed as "*Personality traits*". The factors that are loaded on component 5 are interest in technology and increasing opportunities in technology influenced their career. The component 5 is renamed as "*Technology sector opportunities*". Factors

Table 1. Component loadings

	Component								Uniqueness
	1	2	3	4	5	6	7	8	
UF17	0.826								0.268
UF20	0.810								0.286
UF19	0.728								0.313
UF16	0.707								0.358
UF21	0.692								0.426
UF18									0.385
G39		0.804							0.268
G37		0.697							0.372
G38		0.676							0.391
G40		0.645							0.327
M34		0.592							0.365
M33		0.552							0.427
ff23			0.849						0.227
SF28			0.721						0.247
ff24			0.671						0.393
PT27				0.756					0.371
PT25				0.676					0.368
PT26				0.575					0.412
SF30									0.504
T35					0.866				0.195
T36					0.651				0.313
EF12						0.735			0.397
EF13						0.717			0.389
EF14						0.526			0.387
OJT15						0.521			0.566
TS31							0.810		0.239
TS32							0.771		0.212
SF29								0.735	0.345
UF22								0.508	0.381

Note. 'varimax' rotation was used. The abbreviations of these factors are explained later

loaded on component 6 are the field of study, academic performance, access to educational resources and OJT experience. These factors are renamed as "*Academics*". Factors loaded on component 7 are interest in tourism and opportunities available in the tourism sector have influenced the career choices of students. These two factors are renamed as "*Tourism opportunities*". The last component includes the influence of role models and involvement in student clubs that influenced their career choice. Thus component 8 is renamed as "*Student involvement*".

5.3 Independent Sample T test Associated with Factor Analysis Variables

5.3.1 Gender and career choice

Table 2 presents the results of independent samples t-tests conducted to compare the means

of two variables between male and female respondents. The variables examined are Certainty about Career Choice (Item 10) and Alignment with Career Goals (Item 11).

Hypothesis Testing: The hypothesis testing involved examining whether there were significant differences between male and female respondents regarding their certainty about career choice and the alignment of these choices with their long-term career goals. Two independent samples t-tests were conducted to test these hypotheses, with an alpha level set at 0.05 to determine statistical significance.

H0: There is no significant differences between the means of certainty about career choice between male and female respondents. (H0: μFemale = μMale).

H1: There is a significant difference between the means of certainty about career choice between

male and female respondents. (H1: µFemale ≠ µMale).

H0: There is no significant difference in the mean scores of alignments of chosen career with the long-term career goals between male and female respondents. (H0: µFemale = µMale).

H2: There is a significant difference in the mean scores of alignments of chosen career with the long-term career goals between male and female respondents. (H0: µFemale ≠ µMale).

Certainty about Career Choice (Item 10): The t-statistic of 0.251 indicates a very small difference in the means of certainty about career choice between male and female respondents. The p-value of 0.802 is substantially higher than the conventional alpha level of 0.05, suggesting that any observed difference in means is not statistically significant and likely due to random chance rather than a true effect of gender. Therefore, we accept the null hypothesis (H0), proving that there is no significant difference in the level of certainty about career choice between males and females. This implies that gender does not have a significant impact on how certain students are about their career choices.

Alignment with Career Goals (Item 11): The t-statistic of -0.873 reflects a moderate difference in the means of alignment with career goals between male and female respondents, with the negative sign indicating the direction of difference which means the mean alignment score for females is lower than that for males. The p-value of 0.384 is again well above the

threshold of 0.05, indicating no statistically significant difference. Consequently, we fail to reject the null hypothesis (H0) for this variable as well. This suggests that gender does not significantly influence the alignment of students' career choices with their long-term career goals.

1. University Factors:

Table 3 presents the results of independent samples t-tests conducted to examine the impact of gender on perceptions related to university factors influencing career decisions.

Hypothesis Testing: The hypothesis test aimed to investigate the impact of gender on perceptions related to university factors influencing career decisions. Independent samples t-tests were conducted for each factor to test these hypotheses.

H0: There is no significant difference in the mean perceptions of exploring career opportunities in the manufacturing and industrial sectors due to government initiatives between male and female respondents (H_0: µFemale = µMale).

H3: There is a significant difference in the mean perceptions of exploring career opportunities in the manufacturing and industrial sectors due to government initiatives between male and female respondents (H_a: µFemale ≠ µMale).

H_0: There is no significant difference in the mean perceptions of employment prospects created by Oman's efforts to promote the manufacturing and industrial sectors between male and female respondents (H_0: µFemale = µMale).

Table 2. Gender and career choice

		Statistic	df	p
10.How certain about career	Student's t	0.251	177	0.802
11. Align with your career goals	Student's t	-0.873	177	0.384

Note. H_a µ Female ≠ µ Male

Table 3. Gender with University factors- Independent samples t-test

		Statistic	df	p
UF17	Student's t	1.943	177	0.054
UF20	Student's t	0.782	177	0.435
UF19	Student's t	3.074	177	0.002
UF16	Student's t	1.406	177	0.161
UF21	Student's t	1.368[a]	177	0.173

Note. H_a µ Female ≠ µ Male

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

H4: There is a significant difference in the mean perceptions of employment prospects created by Oman's efforts between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of how Oman's policies to encourage small and medium-sized enterprises (SMEs) have influenced career choices between male and female respondents (H_0: μFemale = μMale).

H5: There is a significant difference in the mean perceptions of how Oman's policies to encourage SMEs have influenced career choices between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of opportunities in public administration, governance, and policy analysis as appealing career options between male and female respondents (H_0: μFemale = μMale).

H6: There is a significant difference in the mean perceptions of these opportunities between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of how government efforts to streamline the public sector influence career choices between male and female respondents (H_0: μFemale = μMale).

H7: There is a significant difference in the mean perceptions of these efforts between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of the influence of recent regulatory changes in business regulations and tax policies on career choices in finance, accounting, or legal professions between male and female respondents (H_0: μFemale = μMale).

H8: There is a significant difference in the mean perceptions of these changes between male and female respondents (H_a: μFemale ≠ μMale).

UF16: Access to Career Guidance Services: The t-statistic of 1.406 indicates a moderate difference in perceptions of access to career guidance services between male and female respondents. A positive sign would suggest that females perceive easier access compared to males. The p-value associated with UF16 is 0.161, indicating that this difference is not statistically significant (p>0,05). Therefore, we accept the null hypothesis (H_0), indicating that any observed differences in perceptions between males and females regarding access to career guidance services may be due to random variation rather than a true gender effect.

UF17: Career Guidance and Counseling Services: The t-statistic of 1.943 indicates a moderate difference in how male and female respondents perceive the effectiveness of university career guidance and counseling services. The positive sign suggests that females rate these services higher on average compared to males. While the t-statistic indicates a substantial difference, the p-value associated with UF17 (0.054) suggests that this difference is marginally significant as it approaches conventional levels of statistical significance (0.05). Therefore, it is proved that there is a notable difference in perception, but it falls just short of being statistically significant. Hence, we fail to reject the null hypothesis (H0), indicating that the difference observed in perceptions may not be conclusive and could be due to chance. A marginally significant p-value suggests that while the difference is considerable, further investigation or a larger sample size might be needed to confirm its statistical significance definitively.

UF19: Career Placement Services: The t-statistic of 3.074 indicates a very high difference in how male and female respondents perceive the effectiveness of the career placement services on their career path choice. A positive sign suggests that females perceive these services as more effective in securing job opportunities aligned with their chosen career paths. The p-value associated with UF19 is 0.002, (p < 0.05). Therefore, we reject the null hypothesis (H0), indicating a significant difference in perception between males and females regarding career placement services. This suggests a strong perception among female students that these services are instrumental in securing job opportunities aligned with their career paths.

UF20: Academic Advising and Mentorship Programs: The t-statistic of 0.782 indicates a minor difference in perceptions of the helpfulness of academic advising and mentorship programs between male and female respondents. The p-value associated with UF20 is 0.435, indicating that this difference is not statistically significant at the conventional alpha level of 0.05. Therefore, we accept the null hypothesis (H0), indicating

that any observed differences in perceptions between males and females regarding academic advising and mentorship programs may not be significant and could be attributed to chance.

UF21: Interaction with Alumni: The t-statistic of 1.368 indicates a moderate difference in perceptions of the effectiveness of university-facilitated interactions with alumni for career insights between male and female respondents. The p-value associated with UF21 is 0.173, indicating that this difference is not statistically significant at the conventional alpha level of 0.05. Therefore, we accept the null hypothesis (H_0), indicating that any observed differences in perceptions between males and females regarding interactions with alumni may not be significant and could be due to random chance.

2. Government Initiatives in the Manufacturing Sector:

Hypothesis Testing: The hypothesis testing involved examining whether there were significant differences between male and female respondents regarding their perceptions of various government initiatives in the manufacturing sector.

H0: There is no significant difference in the mean perceptions of government initiatives between male and female respondents (H0: μFemale = μMale).

H9: There is a significant difference in the mean perceptions of government initiatives between male and female respondents (H3: μFemale ≠ μMale).

M33: Exploring Career Opportunities Due to Government Initiatives: The t-statistic of -1.438 indicates a moderate difference in how male and female respondents perceive the impact of government initiatives on their exploration of career opportunities in the manufacturing and industrial sectors. The negative sign suggests that males perceive these initiatives more positively compared to females. The p-value is 0.152, which is above the alpha level of 0.05. Therefore, we accept the null hypothesis (H0), indicating that this difference is not statistically significant. This implies that the observed difference is likely due to random variation.

M34: Employment Prospects Due to Government Efforts: The t-statistic of 0.289

suggests a minor difference in perceptions of the employment prospects created by Oman's efforts to promote the manufacturing and industrial sectors between male and female respondents. The positive sign indicates that females perceive these efforts slightly more positively. The p-value is 0.773, indicating that this difference is not statistically significant. Therefore, we accept the null hypothesis (H0), suggesting that any observed difference is likely due to random variation.

G37: Influence of Policies for SMEs on Career Choices: The t-statistic of 1.298 indicates a moderate difference in perceptions of how Oman's policies to encourage small and medium-sized enterprises (SMEs) have influenced career choices between male and female respondents. The positive direction implies that females perceive these policies more favorably. The p-value is 0.196, which is not statistically significant at the 0.05 level. Therefore, we accept the null hypothesis (H0), indicating that the observed difference in perceptions is likely due to chance.

G38: Opportunities in Public Administration, Governance, and Policy Analysis: The t-statistic of -0.364 indicates a very small difference in perceptions of opportunities in public administration, governance, and policy analysis as appealing career options between males and females. The negative sign suggests that males perceive these opportunities slightly more positively compared to females. The p-value is 0.716, which is well above 0.05. Therefore, we accept the null hypothesis (H0), indicating that this difference is not statistically significant. This implies that any observed difference in perceptions is likely due to random variation.

G39: Influence of Government Efforts to Streamline the Public Sector on Career Choices: The t-statistic of 1.600 indicates a moderate difference in how male and female respondents perceive the influence of government efforts to streamline the public sector on their career choices. The positive sign suggests that females perceive these efforts more positively compared to males. The p-value is 0.111, which is above the conventional alpha level of 0.05. Therefore, we accept the null hypothesis (H0), indicating that any observed difference in perceptions is likely due to random variation rather than a true gender effect.

G40: Influence of Regulatory Changes on Career Choices in Finance, Accounting, or Legal Professions: The t-statistic of 0.725 indicates a minor difference in perceptions of the influence of recent regulatory changes in business regulations and tax policies on career choices, especially in finance, accounting, or legal professions, between male and female respondents. The positive sign suggests that females perceive these changes slightly more positively. The p-value is 0.469, indicating no statistically significant difference. Therefore, we accept the null hypothesis (H0), suggesting that the observed difference is not significant and may be attributed to chance.

3. Monetary Benefits:

Hypothesis Testing: The hypothesis testing involved examining whether there were significant differences between male and female respondents regarding their perceptions of monetary benefits and related factors.

H0: There is no significant difference in the mean perceptions of monetary benefits and related factors between male and female respondents (H0: µFemale = µMale).
H10: There is a significant difference in the mean perceptions of monetary benefits and related factors between male and female respondents (H4: µFemale ≠ µMale).

FF23: Limited Financial Resources Influencing Career Choices: The t-statistic of -1.167 indicates a moderate difference in how male and female respondents perceive the influence of limited financial resources on their

career choices. The negative sign suggests that males perceive these financial constraints more strongly than females. The p-value is 0.245, which is above the conventional alpha level of 0.05. Therefore, we accept the null hypothesis (H0), indicating that this difference is not statistically significant. This implies that any observed difference in perceptions is likely due to random variation.

SF-28: Influence of Family's Socioeconomic Status on Career Choices: The t-statistic of -0.892 suggests a minor difference in perceptions of the influence of family's socioeconomic status on career choices between male and female respondents. The negative sign suggests that males perceive this influence slightly more strongly than females. The p-value is 0.373, which is not statistically significant at the 0.05 level. Therefore, we accept the null hypothesis (H0), indicating that the observed difference in perceptions is likely due to chance.

FF24: Influence of Financial Opportunities on Career Choices: The t-statistic of -0.950 indicates a small difference in perceptions of the influence of financial opportunities, including salary trends and job benefits, on career choices between males and females. The negative sign suggests that males perceive these opportunities more positively compared to females. The p-value is 0.344, which is above 0.05. Therefore, we accept the null hypothesis (H0), indicating that this difference is not statistically significant. This implies that any observed difference in perceptions is likely to be due to chance.

Table 4. Gender with Government initiatives -Independent Samples t-test

		Statistic	Df	p
G39	Student's t	1.600ᵃ	177	0.111
G37	Student's t	1.298ᵃ	177	0.196
G38	Student's t	-0.364	176	0.716
G40	Student's t	0.725	177	0.469
M34	Student's t	0.289	177	0.773
M33	Student's t	-1.438	177	0.152

Note. Ha µ Female ≠ µ Male
ᵃ Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Table 5. Gender with monetary benefits independent samples T-Test

		Statistic	Df	p
FF23	Student's t	-1.167	177	0.245
SF28	Student's t	-0.892	177	0.373
FF24	Student's t	-0.950	177	0.344

Note. Ha µ Female ≠ µ Male

4. Personality Traits:

Hypothesis Testing: The hypothesis testing examined whether there were significant differences between male and female respondents regarding their perceptions of personality traits influencing career preferences and decisions.

H0: There is no significant difference in the mean perceptions of personality traits influencing career preferences and decisions between male and female respondents (H0: µFemale = µMale).

H11: There is a significant difference in the mean perceptions of personality traits influencing career preferences and decisions between male and female respondents (H_4: µFemale ≠ µMale).

H0: There is no significant difference in the mean perceptions of how willingness to take risks affects career choices between male and female respondents (H_0: µFemale = µMale).

H12: There is a significant difference in the mean perceptions of how willingness to take risks affects career choices between male and female respondents (H_a: µFemale ≠ µMale).

H0: There is no significant difference in the mean perceptions of the influence of personal interests on career decisions between male and female respondents (H_0: µFemale = µMale).

H13: There is a significant difference in the mean perceptions of the influence of personal interests on career decisions between male and female respondents (H_a: µFemale ≠ µMale).

PT25: Personality Traits (e.g., Introversion vs. Extroversion): The t-statistic of 0.401 suggests minor difference in perceptions of how personality traits such as introversion versus extroversion influence career preferences between male and female respondents. The positive value suggest that females perceive personality traits to be more influential in career path choices than males. The p-value is 0.689, which is above 0.05. Therefore, we accept the null hypothesis (H0), indicating that any observed difference in perceptions is likely due to random variation.

PT26: Willingness to take risks affects Career Choices: The t-statistic of 0.195 suggests no significant difference in perceptions of how willingness to take risks affects career choices between male and female respondents. The p-

value is 0.846, which is not statistically significant at the 0.05 level. Therefore, we accept the null hypothesis (H0), suggesting that any perceived differences in this aspect are likely due to chance.

PT27: Personal interests influence on Career Decisions: The t-statistic of -2.271 indicates a substantial difference in how male and female respondents perceive the influence of personal interests on their career decisions. The negative sign suggests that females perceive personal interests as less influential compared to males. The p-value is 0.024, which is below the conventional alpha level of 0.05. Therefore, we reject the null hypothesis (H0), indicating a statistically significant difference in perceptions between genders. This suggests that gender may play a role in how personal interests influence career decisions.

5. Technology Sector Opportunities:

Hypothesis Testing: The hypothesis testing aimed to examine the impact of gender on perceptions related to technology sector opportunities.

H0: There is no significant difference in the mean perceptions of career opportunities in technology sector opportunities between male and female respondents (H_0: µFemale = µMale).

H14: There is a significant difference in the mean perceptions of career opportunities in technology sector opportunities between male and female respondents (H_a: µFemale ≠ µMale).

T35: Exploration of Career Opportunities in Technology Sector: The t-statistic of -1.127 suggests a moderate difference in perceptions of exploring career opportunities in the technology sector between male and female respondents. The negative sign indicates that, on average, males perceive slightly higher opportunities compared to females. However, the p-value of 0.261 is not statistically significant (p > 0.05). Therefore, we accept the null hypothesis (H0), indicating that any observed differences in perceptions between males and females regarding career opportunities in the technology sector may be due to random variation rather than a true gender effect.

T36: Influence of Tech Startups on Career Aspirations: The t-statistic of 0.402 indicates a minor difference in perceptions of how tech

startups influence career aspirations between male and female respondents. The positive sign suggests that females may perceive slightly higher influence compared to males, although this difference is not statistically significant with a p-value of 0.688. Therefore, we accept the null hypothesis (H0), suggesting that any observed differences in perceptions between males and females regarding the influence of tech startups on career aspirations are not statistically significant.

6. Academic Factors:

Hypothesis Testing: The hypothesis testing aimed to investigate the impact of gender on perceptions related to academic factors influencing career decisions. Independent samples t-tests were conducted for each factor to test these hypotheses, with an alpha level set at 0.05 to determine statistical significance.

H0: There is no significant difference in the mean perceptions of alignment of major with career aspirations between male and female respondents (H_0: μFemale = μMale).

H15: There is a significant difference in the mean perceptions of alignment of major with career aspirations between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of impact of academic performance on career choices between male and female respondents (H_0: μFemale = μMale).

H16: There is a significant difference in the mean perceptions of impact of academic performance on career choices between male and female respondents (H_a: μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of access to educational resources influencing career choice decisions between male and female respondents (μFemale = μMale).

H17: There is a significant difference in the mean perceptions of access to educational resources influencing career choice decisions between male and female respondents (μFemale ≠ μMale).

H0: There is no significant difference in the mean perceptions of the impact of on-the-job training or internship experiences on career decisions between male and female respondents (μFemale = μMale).

H18: There is a significant difference in the mean perceptions of the impact of on-the-job training or internship experiences on career decisions between male and female respondents (μFemale ≠ μMale).

Table 6. Gender with personality traits-Independent Samples t-test

		Statistic	Df	P
PT27	Student's t	-2.271	177	0.024
PT25	Student's t	0.401	177	0.689
PT26	Student's t	0.195	177	0.846

Note. H_a μ Female ≠ μ Male

Table 7. Gender with technology opportunities- independent samples t-test

		Statistic	Df	p
T35	Student's t	-1.127	177	0.261
T36	Student's t	0.402	177	0.688

Note. H_a μ Female ≠ μ Male

Table 8. Gender with academic factors- Independent samples t-test

		Statistic	df	p
EF12	Student's t	-0.529	177	0.598
EF13	Student's t	0.422	177	0.674
EF14	Student's t	1.532	177	0.127
OJT15	Student's t	3.060[a]	177	0.003

Note. H_a μ Female ≠ μ Male
[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

EF12: Alignment of Major with Career Aspirations: The t-statistic of -0.529 suggests a minor difference in perceptions of whether one's choice of major aligns with career aspirations between male and female respondents. The negative sign indicates that females may perceive slightly lower alignment compared to males, but this difference is not statistically significant with a p-value of 0.598. Therefore, we accept the null hypothesis (H0), suggesting that any observed differences in perceptions may not be significant and could be due to random chance.

EF13: Impact of Academic Performance on Career Choices: The t-statistic of 0.422 indicates a minor difference in perceptions of the impact of academic performance on career choices between male and female respondents. The positive sign suggests that females may perceive a slightly higher impact compared to males, but this difference is not statistically significant with a p-value of 0.674. Therefore, we accept the null hypothesis (H0), suggesting that any observed differences in perceptions may not be significant and could be due to random variation.

EF14: Access to Educational Resources: The t-statistic of 1.532 indicates a moderate difference in perceptions of access to educational resources influencing career choice decisions between male and female respondents. The positive sign suggests that females perceive better access compared to males, but this difference is not statistically significant with a p-value of 0.127. Therefore, we accept the null hypothesis (H0), suggesting that any observed differences in perceptions may not be significant and could be due to random variation.

OJT15: Impact of On-the-Job Training or Internship Experiences: The t-statistic of 3.060 indicates a very high difference in perceptions of the impact of on-the-job training or internship experiences on career decisions between male and female respondents. The positive sign suggests that females perceive these experiences as significantly more impactful compared to males. The low p-value of 0.003 (p

< 0.05) indicates strong evidence that female students perceive on-the-job training or internships as instrumental in shaping their career decisions. Therefore, we reject the null hypothesis (H0), indicating a significant difference in perception between males and females regarding the impact of on-the-job training or internship experiences.

7. Tourism Opportunities:

Hypotheses testing: H0: There is no significant difference in the mean perceptions of considering a career in the tourism and hospitality industry between male and female respondents (H_0: μFemale = μMale).

H19: There is a significant difference in the mean perceptions of considering a career in the tourism and hospitality industry between male and female respondents (H_a: μFemale ≠ μMale).

TS31: Considering a Career in Tourism and Hospitality Industry: The t-statistic of -0.875 suggests a minor difference in perceptions between male and female respondents regarding considering a career in the tourism and hospitality industry. The negative sign indicates that males may consider this career path slightly more than females, although this difference is not statistically significant (p = 0.383). Therefore, we accept the null hypothesis (H0), suggesting that any observed differences in perceptions are likely due to random variation rather than a true gender effect.

TS32: Influence of Tourism Sector Opportunities on Career Choices: The t-statistic of 1.042 indicates a moderate difference in perceptions of how the surge in opportunities within the tourism sector has influenced career choices between male and female respondents. The positive sign suggests that females perceive these opportunities more positively compared to males. However, the p-value of 0.299 is not statistically significant at the conventional alpha level of 0.05. Therefore, we accept the null hypothesis (H_0), indicating that any differences observed are not statistically significant and may be due to chance.

Table 9. Gender with tourism opportunities - Independent Samples t-test

		Statistic	Df	P
TS31	Student's t	-0.875	177	0.383
TS32	Student's t	1.042	177	0.299

Note. H_a μ Female ≠ μ Male

These interpretations clarify that while there are perceptual differences between male and female respondents regarding careers in the tourism and hospitality industry and the influence of sector opportunities on career choices, these differences do not reach statistical significance based on the sample data analyzed.

8. Student Involvement and Role Model Influence on Career Choice:

Table 10. Gender with student involvement - Independent Samples t-test

		Statistic	Df	P
SF29	Student's t	1.60	177	0.111
UF22	Student's t	1.67	177	0.096

Note. H_a μ Female ≠ μ Male

Hypothesis Testing: H0: There is no significant difference in the mean perceptions between male and female respondents regarding the influence of student involvement in clubs, organizations, or volunteer work (UF22) and the influence of role models (SF29) on their career choices.

H20: There is a significant difference in the mean perceptions between male and female respondents regarding these factors.

For SF29: Influence of role models on career path choice, the t-statistic of 1.60 suggests a moderate difference, although the p-value of 0.111 indicates that this difference is not statistically significant at the conventional alpha level of 0.05. **Similarly, UF22: student involvement in clubs, organizations, or volunteer work** showed a t-statistic of 1.67 with a p-value of 0.096, also not reaching statistical significance. The analysis reveal that females perceive the student involvement and role model influences on career choice decisions more positively than males. Therefore, we accept the null hypothesis (H0) for both variables, indicating that any observed differences in perceptions between males and females regarding role models and student involvement are likely due to random variation rather than a true gender effect. These findings suggest that while there are perceptual variations, gender differences in these aspects of career decision-making were not statistically significant in this study.

6. FINDINGS AND DISCUSSION

6.1 Findings

1. The independent samples t-tests reveal that there are no statistically significant differences between male and female respondents in terms of certainty about their career choices and the alignment of these choices with their career goals. These findings suggest that gender does not play a significant role in these aspects of career decision-making among the students surveyed. The high p-values (0.802 and 0.384) reinforce the conclusion that any observed differences are likely due to random chance rather than a systematic gender-based difference.

2. UF19 (Career Placement Services) shows a significant difference, with females perceiving these services more positively compared to males. UF17 (Career Guidance and Counseling Services) indicates a notable difference that is marginally significant, suggesting potential gender-related disparities that warrant further investigation. UF16 (Access to Career Guidance Services), UF20 (Academic Advising and Mentorship Programs), and UF21 (Interaction with Alumni) show differences in perceptions between genders, but these differences do not reach statistical significance, implying more consistent perceptions across genders or potential variability due to other factors.

3. The analysis of perceptions of government initiatives in the manufacturing sector reveals that there are no statistically significant differences between male and female respondents for any of the variables examined. While some differences in perceptions are observed, none of these differences reach the conventional level of statistical significance ($p < 0.05$). This suggests that perceptions of exploring career opportunities, employment prospects, influence of

policies for SMEs, opportunities in public administration, the impact of government efforts to streamline the public sector, and regulatory changes on career choices are relatively consistent across genders, with any observed differences likely due to random chance.

4. The analysis of perceptions of monetary benefits and related factors reveals that there are no statistically significant differences between male and female respondents for any of the variables examined. While some differences in perceptions are observed, none of these differences reach the conventional level of statistical significance ($p < 0.05$). This suggests that perceptions of the influence of limited financial resources, family's socioeconomic status, and financial opportunities on career choices are relatively consistent across genders, with any observed differences likely due to random chance.

5. The findings indicate that while there is a significant difference in perceptions regarding the influence of personal interests on career decisions between male and female respondents, no significant differences were found regarding the influence of personality traits (e.g., introversion vs. extroversion) or willingness to take risks on career choices. This suggests that gender may selectively influence perceptions of certain personality-driven career factors.

6. Based on the findings, there are no statistically significant differences between male and female perceptions regarding technology sector opportunities as indicated by t-tests for T35 and T36. These results suggest that gender may not significantly influence how career opportunities and tech startups are perceived among respondents. Further research with larger sample sizes or different methodologies may provide additional insights into these perceptions.

7. Based on the findings, perceptions of academic factors influencing career decisions vary between male and female respondents. Significant differences were found for OJT15 (On-the-Job Training or Internship Experiences), suggesting that females perceive these experiences as significantly more impactful. However, for EF12 (Alignment of Major with Career Aspirations), EF13 (Impact of Academic Performance on Career Choices), and EF14 (Access to Educational Resources), no statistically significant differences based on gender were found. These results imply that while gender may influence how certain academic factors are perceived, further research with larger sample sizes or different methodologies may provide additional insights into these perceptions.

8. Results indicated a minor difference in how individuals consider careers in tourism sector (TS31), with males showing slightly higher inclination, though not statistically significant (t-statistic = -0.875, $p = 0.383$). Regarding the influence of tourism sector opportunities on career choices (TS32), a moderate difference was observed favoring females, yet not reaching statistical significance (t-statistic = 1.042, $p = 0.299$).

6.2 Discussion

The findings of this study on the gender dynamics in career decision-making among students at the University of Technology and Applied Sciences (UTAS) in the Sultanate of Oman reveal that gender does not significantly influence most aspects of career decision-making. This aligns with several previous studies. For instance, Jeofrey, (2017) and Roknuzzaman (2021) both found that gender did not significantly impact students' career choices, reinforcing the notion that career decision-making processes are largely gender neutral. Similarly, the research by Gati et al., (1995) and Migunde et al. (2012) reported no significant gender differences in career decision-making and career instability, which further corroborates our findings. Ryan (2011) also noted that demographic factors, including gender, were less informative compared to personality traits and age in explaining career decidedness, which supports the minimal role of gender observed in our study.

However, our study also highlights specific areas where gender differences were notable, particularly in perceptions of career placement services, personal interests influencing career decisions, and the impact of on-the-job training or internship experiences. These findings are partially contradicted by studies such as Hadi et al. (2023), which found that gender, as a social construct, significantly influences career choice trajectories. Osi (2018) also reported that gender did not affect career choices, but did emphasize

socio-economic status as a significant factor, diverging slightly from our focus on gender-specific influences. Interestingly, Egbo et al. (2022) found no significant gender differences in the influence of parental factors on career choices, which is consistent with the overall theme of gender-neutral career decision-making in our study. This consistency suggests that while gender may influence certain perceptions and experiences, the broader impact on career choice remains limited. In conclusion, while our findings largely support the existing body of research that downplays the role of gender in career decision-making, the significant differences observed in specific areas underscore the need for more detailed investigations. Future research with larger sample sizes and varied methodologies could provide deeper insights into how gender may intersect with other factors to influence career decisions, ultimately contributing to a more comprehensive understanding of this complex process.

7. CONCLUSION

The findings from the independent samples t-tests indicate that gender does not play a statistically significant role in most aspects of career decision-making among the students surveyed. However, significant differences were observed in the perceptions of career guidance and counselling services (UF17) career placement services (UF19) and the influence of personal interests on career decisions (PT27), with females perceiving these aspects more positively than males. Additionally, on-the-job training or internship experiences (OJT15) were perceived as significantly more impactful by female respondents. For other variables no significant gender-based differences were observed. This suggests that career-related perceptions and decisions are relatively consistent across genders, with any observed differences likely due to random variation rather than systematic gender effects. Further research with larger sample sizes or different methodologies may provide additional insights into these perceptions.

8. RECOMMENDATIONS

Based on the findings, the following recommendations are proposed to address gender-related differences and enhance career-related support and services:

1. **Enhance Career Placement Services**: Develop targeted initiatives to improve career placement services, particularly addressing the needs and preferences of female students who perceive these services more positively.
2. **Expand On-the-Job Training and Internship Opportunities**: Increase the availability and quality of on-the-job training and internship programs, as these experiences are perceived as significantly more impactful by female students.
3. **Personal Interest Integration**: Create programs and workshops that help students align their personal interests with career paths, acknowledging the significant influence of personal interests on career decisions, particularly among male students.
4. **Career Guidance and Counseling**: Strengthen career guidance and counseling services to ensure they are equally effective for all genders, addressing the marginally significant gender-related disparities observed.
5. **Support for Academic Factors**: Maintain and enhance support for academic advising, access to educational resources, and student involvement in clubs and organizations, ensuring these services meet the needs of both male and female students equally.
6. **Promote Gender-Neutral Initiatives**: Develop and promote initiatives that do not show significant gender differences, such as technology sector opportunities and tourism sector careers, ensuring they are accessible and appealing to all students.
7. **Awareness Campaigns**: Implement awareness campaigns to address and mitigate any unconscious biases in career decision-making processes, ensuring that all students receive equal encouragement and support regardless of gender.

Recommendations for Further Research: Further research may be carried out with larger sample sizes or different methodologies to gain deeper insight into gender-related perceptions and to validate the current findings.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The authors used ChatGPT (GPT-4, OpenAI) for assistance in drafting the reference section and making minor grammatical revisions. The

manuscript's intellectual content, analysis, and conclusions are entirely the authors' work.

Details of AI Usage:

1. Drafting References: ChatGPT was used to organize and format references as per journal guidelines.
2. Grammatical Revisions: ChatGPT assisted in identifying and correcting minor grammatical errors for improved readability.
3. Scope of Usage: The AI tool was not involved in generating content, analyzing data, or forming conclusions.

DATA AVAILABILITY

The data that supports the findings of this study are available from the corresponding author, upon reasonable request. These materials include the survey data, statistical analysis files, and any other relevant materials. Due to privacy and ethical concerns, the data is not publicly available.

INFORMED CONSENT TO PARTICIPATE

All participants in this study provided their informed consent prior to participation. The purpose of the study was explained clearly, and participants were assured that their data would be treated with confidentiality and used solely for research purposes. Participation was voluntary, and participants had the right to withdraw at any stage without any consequences.

ETHICAL APPROVAL

This approval was granted by the Internal Research Grant Committee of University Technology and Applied Sciences, Nizwa.

ACKNOWLEDGEMENTS

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

Abe, E., & Chikoko, V. (2020). Exploring the factors that influence the career decision of STEM students at a university in South Africa. *International Journal of STEM Education, 7*(1), Article 56. https://doi.org/10.1186/s40594-020-00256-x

Cheung, F., Wan, S., Fan, W., Leong, F., & Mok, P. (2013). Collective contributions to career efficacy in adolescents: A cross-cultural study. *Journal of Vocational Behavior, 83*(3), 237–244. https://doi.org/10.1016/j.jvb.2013.05.004

Durosaro, I., & Nuhu, M. A. (2012). Gender as a factor in the career choice readiness of senior secondary school students in Ilorin Metropolis of Kwara State, Nigeria. *International Journal of Humanities and Social Science, 2*(14), 109–113.

Egbo, C. E., Uzuagu, S. C., & Agbii, S. U. (2022). Determinants of career choice among secondary school students in Enugu East Education Zone. *Contemporary Journal of Educational Development, 2*(11), 12–22.

Gati, I., Osipow, S. H., & Givon, M. (1995). Gender differences in career decision making: The content and structure of preferences. *Journal of Counseling Psychology, 42*(2), 204–217.

Ghuangpeng, S. (2011). *Factors influencing career decision-making: A comparative study of Thai and Australian tourism and hospitality students* [Doctoral thesis]. Victoria University.

Hadi, A., & Aryani, E. (2023). Navigating career decisions: The influence of gender perception among high school students. *Jurnal Bimbingan Konseling Terapan, 7*(2), 125–131. https://doi.org/10.30598/jbkt.v7i2.1794

Hellen, O., Stella, O., & Omare, M. (2017). An assessment of factors influencing career choices among university students: A survey of students in the school of business and economics, Kisii University. *IOSR Journal of Humanities and Social Science, 22*(11), 82–91.

Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models.* SAGE Publications. https://doi.org/10.4135/9780857028075

Jeofrey, M. (2017). *Factors influencing the choice of career pathways among high school students in Midlands Province, Zimbabwe*

[Doctoral thesis]. University of South Africa. https://uir.unisa.ac.za/handle/10500/23174

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607–610. https://doi.org/10.1177/0013164470030003 08

Maina, B. N. (2013). *Factors influencing career choices among undergraduate students in public universities in Kenya: A case of Compassion International sponsored students* [Master's thesis]. University of Nairobi. http://erepository.uonbi.ac.ke:8080/xmlui/h andle/123456789/56237

Maxwell, D. E. (2015). Comparative analysis of factors influencing career choices among senior secondary school students in Rivers State, Nigeria. *International Journal of Education and Learning Development, 3*(6), 48–53.

Muhammad, N. A., & Nosheen, S. (2014). Factors inducing career choice: Comparative study of five leading professions in Pakistan. *Pakistan Journal of Commerce and Social Sciences, 8*(3), 830–845.

Noteboom, C., Crandall, K., & Noteboom, M. (2024). Influencing adolescent's career choices: Parent's perceptions of information systems. *Issues in Information Systems, 25*(3), 13–25. https://doi.org/10.48009/3_iis_2024_102

Onur, M. Y., & Hakan, S. (2020). Career decidedness of college students. *International Journal of Social Research, 15*(23), 1616–1624.

Ooro, H. (2017). *An assessment of factors influencing career choices among university students: A survey of students in the school of business and economics, Kisii University* [Doctoral dissertation].

Osi, P. (2018). Factors responsible for career choice among secondary school students in Ogba Egbema Ndoni local government area, Rivers State. *International Journal of Education and Evaluation, 4*(7), 26–31.

Siew, C. W., Lim, J. Y., Lim, C. S., & Hong, K. T. (2019). An empirical study on career choices among undergraduates: A PLS-SEM hierarchical component model (HCM) approach. *International Journal of Human Resource Studies, 9*(2), 276–298. https://doi.org/10.5296/ijhrs.v9i2.14600

Stephen, S., Julie, S., & Andrew, M. (2022). Primary and secondary school students' career aspirations and job automation-related risks. *International Journal of Educational and Vocational Guidance.* https://doi.org/10.1007/s10775-022-09573-9

Yessy, A., Untarini, N., Widyastuti, W., Andjarwati, A. L., Tiarawati, M., Indarwati, T. A., et al. (2018). Career choice: An empirical study on socio-demographic and work motivation in higher education. *International Journal of Civil Engineering and Technology, 9*(11), 654–670.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/128832