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From Education to Employment: Career Barrier and Perceptions of Health Vocational Students

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Abstract

Purpose: Unemployment continues to be one of the most critical challenges globally. In this context, perceptions of employability and career obstacles have gained importance, particularly in the field of healthcare services. This study investigates the impact of personal characteristics and employability perceptions on perceived career barriers among students attending a health vocational school.

Method: The study was conducted with 405 students from a vocational school in Ankara. Participants were selected through convenience sampling, based on the principle of equal probability. Data were collected via an online questionnaire and analyzed using the Kruskal-Wallis test, Mann-Whitney U test, and Hierarchical Linear Regression Analysis.

Findings: Findings show that older age (β=.118, p = .009) and being female (β=.192, p < .001) are positively correlated with perceived career barriers. On the other hand, the probability of being appointed to the public sector was found to have (β=-.093, p = .039) a negative effect on perceived career barriers.. External employability factors (β= -.430, p < .001) appear to have a stronger impact than internal ones.

Conclusion: In this study, it was observed that, in addition to individual competencies, environmental factors such as expectations of public employment and family pressure have an impact on students' perceptions of career barriers. Therefore, it is recommended that career counselling services for students studying in the field of health should not only aim to strengthen individual skills but also support the development of abilities to cope with familial obligations and market conditions.

Keywords: Health Workforce, Employment, Vocational Training, Social Policy

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Özet

Amaç: İşsizlik, günümüzde ülkelerin en önemli sorunlarından biri olmaya devam etmektedir. Bu nedenle, istihdam edilebilirlik ve kariyer engellerine ilişkin algılar, sağlık hizmetleri alanında önemli bir araştırma konusudur. Bu çalışmanın amacı, sağlık hizmetleri meslek yüksekokulu öğrencilerinin kişisel özellikleriyle istihdam edilebilirlik algılarının, algılanan kariyer engelleri üzerindeki etkisini incelemektir.

Yöntem: Bu araştırma, Ankara ilinde bulunan bir sağlık meslek yüksekokulunda öğrenim gören ve eşit olasılıklı örneklem yöntemi temel alınarak, kolayda örnekleme yöntemiyle ulaşılan toplam 405 öğrenci ile gerçekleştirilmiştir. Elde edilen verilerin analizinde Kruskal-Wallis testi, Mann-Whitney U testi ve Hiyerarşik Doğrusal Regresyon Analizi kullanılmıştır.

Bulgular: Araştırma bulgularına göre, ileri yaşın (β=.118, p = .009) ve kadın olmanın (β=.192, p < .001) algılanan kariyer engellerini pozitif yönde etkilediği belirlenmiştir. Kamuya atanma olasılığının (β=-.093, p = .039) algılanan kariyer engelleri üzerinde negatif bir etkisi olduğu saptanmıştır. Ayrıca, dışsal istihdam edilebilirlik faktörlerinin, algılanan kariyer engelleri üzerinde içsel istihdam edilebilirlik faktörlerine kıyasla daha belirleyici olduğu görülmüştür (β=-.430, p < .001).

Sonuç: Bu çalışmada, öğrencilerin kariyer engellerine ilişkin algıları üzerinde bireysel yeterliliklerinin yanı sıra, kamu istihdamı beklentisi ve aile baskısı gibi çevresel faktörlerin etkili olduğu görülmüştür. Bu nedenle, sağlık alanında öğrenim gören öğrenciler için kariyer danışmanlığı hizmetlerinin, sadece bireysel becerileri güçlendirmeyi değil, bununla birlikte ailevi yükümlülükleri ve piyasa koşullarıyla baş etme becerilerini desteklemeyi hedeflemesi önerilmektedir.

Anahtar Kelimeler: Sağlık İnsangücü, İstihdam, Mesleki Eğitim, Sosyal Politika

Introduction

Education is one of the most essential factors that increase the employability of individuals. The competencies and skills gained through education increase the potential to adapt to the qualifications demanded in the labour market (Smith, 2002). In this context, Adam Smith emphasizes the effect of an educated workforce on economic growth by saying "The labour of a well-educated individual is more productive than the labour of an uneducated individual, and this directly contributes to the general welfare of society." in his work "The Wealth of Nations" (Smith, 2002). Higher education, in particular, contributes to individuals gaining professional expertise and becoming competitive in the labour market (Psacharopoulos & Patrinos, 2018). However, it is known that employability is not only related education, continuous learning and skill development processes are also essential in order to adapt to the changing dynamics of the labour market (Guggenberger et al., 2011; Kellermann, 2007; Murdoch & Paul, 2007; Williams et al., 2003).

Since the 1960s, the relationship between education and employment has been addressed within the framework of Human Capital Theory. Human Capital Theory (Schultz, 1961) has posited that investment in human resources is one of the key determinants of economic development. According to this theory, investments in education are believed to enhance individual productivity and contribute to the overall welfare of society. However, with globalization, economic structures have been transformed, and the expectations of the labour market have become increasingly complex. In modern economies, merely holding a diploma is no longer considered sufficient, and the necessity of possessing the competencies demanded by employers has come to the forefront

(Marginson, 2019). In Turkey, the rising unemployment rates among higher education graduates have been interpreted as an indication of structural mismatches in the education-employment relationship (Palaščáková & Palaščáková, 2020; Yavaş, 2022). In the literature, the perception of employability has been addressed in two main dimensions: internal and external. While internal employability reflects an individual's confidence in his/her own competencies, external employability is associated with expectations regarding labour market conditions and sectoral opportunities (Guggenberger et al., 2011). The perception of career barriers has been defined as encompassing the structural or perceived obstacles that individuals believe they encounter throughout their career journey. Gender-based invisible barriers (glass ceiling) and age-related career limitations have been identified as potential sources of disadvantage in the employment processes of women and older individuals within the health sector (Baduge et al., 2024; Pak et al., 2022). In the literature, such factors have been reported to strengthen the perception of career barriers and negatively influence individuals' motivation to participate in the workforce (Endalamaw et al., 2024; Kaur & Mittal, 2022).

In Turkey, public employment—particularly in the health sector—is still regarded as a secure and stable option, whereas competition, performance pressure, and expectations of low wages in the private sector have been reported to influence individuals' career preferences (Savul, 2009). In this context, the likelihood of being appointed to a public position has been identified as a significant external factor considered by students when determining their career goals.

In line with the theoretical framework outlined above, the central research problem was defined as the investigation of how individual (gender, age, internal employability) and environmental (potential for public appointment, external employability) factors shape students' perceptions of career barriers. Although the possibility of public appointment has traditionally been regarded as the primary goal for graduates of health vocational schools in Turkey, a remarkable increase in private sector employment rates has been observed over the past five years (TURKSTAT, 2023). Therefore, it can be stated that the career plans of students in health vocational schools are shaped not only by preparation for the Public Personnel Selection Examination (KPSS) or aspirations for public sector positions, but also by expectations related to private sector employment.

In this context, the primary aim of the current study is the analysis of students' public and private sector–oriented employment expectations in conjunction with their career perceptions. To this end, answers to the following research questions were sought.

1. What are the students' perceptions of employability (internal employability and external employability) and career barriers (perceptions of identity barriers, family barriers and support sources)?
2. How do students' perceptions of employability and career barriers shift according to demographic factors such as gender, marital status, employment status, department and age?
3. Do students' gender, age and internal perception of employability significantly predict career barrier perception?
4. Do students' department and external perceptions of employability significantly predict career barrier perception?
5. Does the model in which individual and environmental factors are considered together explain perceived career barriers more strongly compared to the model based on individual factors alone?

Method

Population and Sample

The population of the study consists of students studying at the Health Sciences University Gülhane Health Vocational High School in the 2024-2025 academic year. The total number of students, distributed in 13 different departments of the Vocational School, is 2021. In the calculation of the sample size of the study, the Cochran (1977) formula with the assumption of a 95% confidence level, 5% margin of error and an unknown rate (p = .50) was used. As a result of the calculation, the recommended minimum sample size was found to be 323 people. The study sample consists of 405 participants randomly selected from the population.

The departments to which the participants attended were classified into two main groups based on the number of appointments to the public and private sectors in the last five years ranging from 2019 to 2024 according to the data provided by the Directorate General of Management Services of the Republic of Turkey Ministry of Health. The departments in the first group are Operating Room Technician, First and Emergency Aid, Electroneurophysiology, Anaesthesia, Medical Imaging Technician, Oral and Dental Health, Pharmacy Services, Pathology Laboratory Technician and Medical Laboratory Technician. These participants from these departments (n = 274) represent 69.4% of the participants in the current study. These are the departments with the highest likelihood of appointment to the public. The departments Dental Prosthesis Technicians, Orthopaedic Prosthesis Orthosis Technicians, and Health Institutions Management were gathered in the second group as departments with very few or no quotas in the public sector and higher employment opportunities in the private sector, and this group (n = 121) include 30.3% of the participants. In the analyses and presentation of the results, the first group was named as the group with a high probability of being appointed to the public sector, and the second group was named as the group with a low probability of being appointed to the public sector.

Data Collection Tools

The data collection tool used in the current study consists of three parts. The first part contains questions to determine the participants' demographic characteristics (age, gender, marital status). The second part includes the Perceived Career Barriers Scale, developed by Luzzo and McWhirter (2001) and adapted to Turkish by Kalafat (2014) to measure the participants' perceptions of career barriers. The perceived career barriers scale consists of the dimensions of Identity Barriers (Items 1-15), Support Source Barriers (Items 16-26) and Family Barriers (Items 27-32). The scale is a 5-point Likert type scale consisted of a total of 32 items. The scores to be taken from the scale range between 32 and 160. A high score indicates a high level of career barrier perception. The internal consistency coefficients of the scales were evaluated with Cronbach α and the following values were found for the scales: Perceived Career Barriers (α=0.955), Identity Barriers (α=0.942), Support Source Barriers (α=0.925), Family Barriers (α=0.885).

In the third part, the Perceived Employability Scale, which was developed by Rothwell and Arnold (2007) and adapted to Turkish by Gerçek and Atay (2017), was used. The perceived employability scale consists of the Intrinsic Employability (Items 1-4) and Extrinsic Employability (Items 5-10) dimensions. The scale consists of a total of 10 items and is scored on a 5-point Likert-type scale. The scores to be taken from the scale range between 10 and 50. A high score indicates a high perception of employability. In the current study, the following internal consistency coefficients were calculated for the scales: the Perceived Employability (α=0.902), Intrinsic Employability (α=0.823) and Extrinsic Employability (α=0.891).

Data Collection Process

After receiving the ethical approval numbered 50 and dated 12.02.2025 from Çankırı Karatekin University Science, Mathematics and Social Sciences Ethics Board, the data of the study were collected online from a total of 405 participants from the university between February 15 and March 17, 2025. The Google Forms platform was used as the online data collection tool.

Data Analysis

The data obtained in the study were analyzed using SPSS software. First, it was examined whether there were missing values in the data set, and no missing data were found. In order to determine and remove outliers in the data set used in the study, z-scores of each variable were calculated, and observations outside of ±3 standard deviations were considered outliers. As a result of this process, the data set, which initially consisted of 405 participants, decreased to 395 participants. The Shapiro–Wilk test was applied to assess the normality of the variables. The test results are presented in Table 1.

Table 1. Results of the Shapiro–Wilk Normality Test

Variable	W	df	p
Identity-Related Barriers	.948	395	< .001
Support Resource Barriers	.972	395	< .001
Familial Barriers	.976	395	< .001
Perceived Career Barriers	.982	395	< .001
Internal Employability	.958	395	< .001
External Employability	.961	395	< .001
Perceived Employability	.969	395	< .001

As can be seen from the values in Table 1, the Shapiro–Wilk test yielded p-values smaller than .001 for all the variables. This indicates that the data significantly deviate from normal distribution, and that the assumption of normality is not met.

The Mann-Whitney U test examined differences between the independent and dependent variables, and relationships between the dependent variables were examined with Spearman correlation analysis. In addition, hierarchical regression analysis was performed to analyze the interactions between the dependent variables deeply.

Findings

The participants' ages ranged from 17 to 50, and the mean age was calculated as 20.31 (SD = 4.03). 75.4% (n = 298) of the participants were female, 24.6% (n = 97) were male, and in terms of marital status, the majority were single (97.5%, n = 385), while 2.5% (n = 10) were married.

Descriptive statistics such as the mean, standard deviation, median, the lowest and highest scores obtained from the scale, and the lowest and highest scores that can be obtained from the scale related to the participants' perception of career barriers and perception of employability are given in detail in Table 2.

Table 2. Descriptive Statistics of the Variables and Sub-Dimensions (n=395)

Variable	Range	Min.-Max.	M (SD)	Median
Perceived Career Barriers	32-160	32-137	71.88 (21.90)	72
Identity Barriers	15-75	15-61	29.19 10.29)	30
Support Source Barriers	11-55	11-52	26.99 (9.80)	26
Family Related Barriers	6-30	6-30	15.68 (5.41)	16
Perceived Employability	10-50	14-50	35.41 (6.39)	35
Intrinsic Employability	4-20	6-20	14.85 (2.84)	15
Extrinsic Employability	6-30	8-30	20.55 (4.22)	20

When the score ranges that can be obtained from the scale and the median values in Table 1 were compared, the following results were obtained:

The possible score range for the Perceived Career Barriers Scale is 32-160, with a median value of 72. This value is below the midpoint of the scale. This shows that participants generally perceive career barriers below a moderate level. When the sub-dimensions of the scale were examined, the following results were obtained:

- The possible score range for the Identity Barriers sub-dimension is 15-75, while the median is 30. This median value is below the midpoint of the scale, and the participants perceive identity barriers below a moderate level.
- The possible score range for the Support Source Barriers sub-dimension is 11-55, while the median is 26. This value is also below the midpoint of the scale, and the participants perceive barriers related to support sources below a moderate level.
- The possible score range for the Family Barriers sub-dimension is 6-30, while the median is 16. This value is quite close to the midpoint of the scale, and this shows that the participants perceive family barriers at a relatively higher level than other types of barriers.
- The range of scores that can be obtained for the Perceived Employability Scale is 10-50, with a median value of 35. This value is above the scale midpoint. This shows that the participants generally perceive their employability as above a moderate level. When the sub-dimensions of the scale were examined, the following results were obtained:
- The range of scores that can be obtained in the Intrinsic Employability sub-dimension is 4-20, while the median is 15. This value is above the scale midpoint and shows that the participants perceive their intrinsic employability above a moderate level.
- The range of scores that can be obtained in the Extrinsic Employability sub-dimension is 6-30, while the median is 20. This value is above the scale midpoint, and the participants perceive their extrinsic employability above a moderate level.

Table 2 presents the results of the Mann-Whitney U test, which was conducted to determine whether the participants' perceptions of career barriers and employability vary significantly depending on gender, marital status, employment status, and department variables.

Table 3. Mann-Whitney U Test Results of Participants' Perceptions of Career Barriers and Employability Depending on Gender, Marital Status, Employment Status and Department of Study

Variable		Group	n	Median (IQR)	Rank Mean	U	Z	p	r
Perceived Career Barriers	Gender	Female	298	75(63-90)	214.83	9438.50	-5.136	<.001	.26
		Male	97	64(47-74)	146.30				
	Marital Status	Married	10	71.50(64-100)	225.00	1655.00	-.758	.449	.04
		Single	385	72(58-87)	197.30				
	Employment Status	Employed	30	66(58-85)	188.62	5193.50	-.468	.639	.02
		Unemployed	365	72(59-87)	198.77				
	Probability of Appointment	High	274	70(58-87)	190.85	14619.00	-1.873	.061	.09
		Low	121	75(63-90)	214.18				
Perception of Employability	Gender	Female	298	34(31-39)	191.04	12378.00	-2.129	.033*	.26
		Male	97	36(32-40)	219.39				
	Marital Status	Married	10	35.5(33-42)	230.30	1602.00	-.908	.364	.04
		Single	385	35(31-39)	197.16				
	Employment Status	Employed	30	39(33-42)	245.40	4053.00	-2.371	.018	.02
		Unemployed	365	34(31-39)	194.10				
	Probability of Appointment	High	274	35(32-39)	197.79	16520.00	-0.55	.956	.03
		Low	121	35(31-39)	198.47				

When the results were examined for the gender variable, a statistically significant difference was found between the career barriers perceptions of the female and male participants (U=9438.50, Z=-5.136, p<.01). When the mean ranks and median values were compared, it was observed that the female participants (Mdn=75, IQR=63-90, Mean Rank=214.83) perceived higher level of career barriers than the male participants (Mdn=64, IQR=47-74, Mean Rank=146.30). The effect size (r=0.26) indicates a medium-level effect. Regarding the marital status variable, no statistically significant difference was found between the perceptions of career barriers between the married and single participants (U=1655.00, Z=-.758, p=.449). When the results were examined for the employment status variable, no statistically significant difference was found between employed and unemployed participants' perceptions of career barriers (U=5193.50, Z=-.468, p=.639). In the department variable, no statistically significant difference was found between the two groups in terms of the perception of career barriers (U=14619.00, Z=-1.873, p=.061).

Employability perception was compared using the Mann-Whitney U test depending on the demographic characteristics of the participants. In terms of gender, a statistically significant difference was found between the female (Mdn = 34), and the male (Mdn = 36) participants (U = 12378.00, Z = -2.129, p = .033, r = .11). The scores of the male participants (mean rank = 219.39) were significantly higher than the scores of the female participants (mean rank = 191.04). However, the low effect size (r=.11) shows that this difference is negligible in practical terms. In the comparison made depending on marital status, no statistically significant difference was found between the married (Mdn = 35.5) and single (Mdn=35) participants (U= 1602.00, Z= -.908, p = .364). In the comparison made depending on employment status, the scores of the employed participants (Mdn = 39) (mean rank=245.40) were found to be statistically significantly higher than the scores of the unemployed participants (Mdn=34) (mean rank = 194.10) (U = 4053.00, Z = -2.371, p = .018, r = .12). The effect size for employment status was also low (r = .12). In the department variable, no statistically significant difference was found between the two groups in terms of employability perception (U=16520.00, Z=-0.55, p=.956).

The Spearman Rank Correlation Analysis was conducted to determine the direction and intensity of the relationship between the participants' perceptions of career barriers, perceptions of employability and age. The obtained correlation coefficients are given in detail in Table 4.

Table 4. Correlation Analysis Results for the Relationship Between Perception of Career Barriers, Perception of Employability and Age

Variable	1	2	3	Median	IQR
1. Age	-	.125*	-.001	19	18-21
2. Perceived Career Barriers	.125*	-	-.347**	72	58-87
3. Perceived Employability	-.001	-	-	35	31-39

* p<.05, **p<.01

As seen in Table 4, the relationships between the participants' age, career barriers perceptions and employability perceptions were examined. According to the analysis results, there is a positive and statistically significant but weak relationship between age and perceived career barriers (r = .125, p < .05). This finding reveals that perceived career barriers increase slightly as age increases. However, the low correlation coefficient indicates that the practical effect of this relationship may be limited. No statistically significant relationship exists between the participants' ages and perceived employability (r = -.001, p> .05).

A two-stage hierarchical regression analysis was performed to predict the career barriers individuals perceive and the analysis results are presented in Table 5. Findings indicate that the greater the structural and individual barriers encountered by participants along their career trajectories, the more negatively their employability perceptions are affected. This underscores that career barriers influence not only professional development but also one's perceived position within the labor market and level of self-confidence.

Table 5. Results of Hierarchical Regression Analysis in Predicting Perceived Career Barriers

Variable	Beta	Standart Error	β	t	p	R^2	Adjusted R^2	F
Model 1						.115	.108	16.850**
Constant	73.668	7.684	-	9.588	<.001			
Gender[a]	11.314	2.439	.223	4.639	<.001			
Age	.647	.260	.119	2.484	.013			
Internal Employability	-1.580	.368	-.205	-4.288	<.001			
Model 2						.237	.227	24.088**
Constant	93.900	7.743	-	12.126	<.001			
Gender	9.744	2.281	.192	4.272	<.001			
Age	.641	.244	.118	2.631	.009			
Public Employability[b]	-4.395	2.120	-.093	-2.074	.039			
Internal Employability	.435	.437	.056	.995	.320			
External Employability	-2.228	.295	-.430	-7.552	<.001			

Note. B=Unstandardized regression coefficient; SE = Standard error; β = Standardized regression coefficient; p < .05 (*), p < .01 (**). a 0 = Male, 1 = Female. b 0 = = Low probability of being appointed to a public sector position, 1 = High probability of being appointed to a public sector position.

Hierarchical regression analysis was applied in order to predict the career barriers perceived by the participants. The analysis was carried out in two stages. Model 1 focused on the individual's personal characteristics including age and gender and the internal employability perception variable was included in the model. This model aimed to examine the effects of the individual's own competence perception and demographic characteristics on career barriers. According to the results of Model 1, gender (β = .223, p < .001), age (β = .119, p = .013) and internal employability (β = -.205, p < .001) significantly predicted the perception of career barriers. This model explained 11.5% of the variance (R^2 = .115, $F(3, 390)$ = 16.850, p < .001).

Model 2 includes variables related to the individual's environmental conditions in addition to personal factors. The department was studied in this context, and external employability perception was added to the model. According to the results of Model 2, external employability (β = -.430, p < .001) is the variable with the strongest and most significant negative effect on career barriers. When added to this model, the significance of the internal employability variable disappeared (p = .320), indicating that the explanatory power of external factors was more

dominant. The risk of multicollinearity for the variables included in Model 2 was tested using Variance Inflation Factor (VIF) values. The VIF was found to be 1.63 for the internal employability variable and 1.65 for the external employability variable. Since all the values are well below the commonly accepted threshold (< 5), no significant multicollinearity issue exists within the model.

The variables of gender (β=.192, $p < .001$), age (β=.118, $p = .009$) and department (β=-.093, $p = .039$) also remained significant in the model. Model 2 explains 24% of the variance and provides a significant increase in explanatory power compared to the previous model ($R^2 = .237$ $F(5, 388) = 24.088$, $p < .001$). The analysis findings indicate that the gender variable has a highly significant effect in both the public sector appointment and private sector employability models. This suggests that male and female students differ in terms of career expectations, perceptions of job security, and sectoral preferences. Such differences reflect not only individual choices but also the structural inequalities internalized within society.

Discussion

This study, which comprehensively examines university students' perceptions of career barriers, reveals the different effects of demographic characteristics such as gender, age and department, as well as internal and external employability perceptions on career barriers.

The research findings have shown that students generally perceive career barriers at a low level. When the total and sub-dimension scores of the Perceived Career Barriers Scale are examined, it is seen that the participants perceive barriers related to identity and support sources, particularly at a low level. In contrast, perceptions of family barriers are closer to the scale's midpoint and are more pronounced than other types of barriers. This indicates that family factors play a relatively more important role in students' career planning and employment processes.

Identity barriers: In addition to internal factors such as students' lack of self-confidence, uncertainty about career goals, and difficulty in making decisions, it also includes perceptions of discrimination based on gender and race/ethnicity. Such barriers are related to the level of acceptance of an individual's identity in society or the labour market and may limit the individual's ability to realise their potential. However, many studies show that university students generally perceive these types of barriers at a low level (Chowaniec, 2024; Merrell, 2019; Punch, 2006; Urbanaviciute, 2016). There may be various reasons why family factors are perceived as career barriers. Parents' career expectations may conflict with students' own interests and abilities, which can create pressure and stress on students (Nair, 2024; Wang, 2023).

Participants evaluated their general employability above the average level and had positive internal and external employability perceptions. It can be thought that these positive perceptions can effectively reduce the perception of career barriers. A high perception of employability can allow individuals to evaluate their future career plans more optimistically. However, the relatively higher perception of family-related barriers demonstrates that environmental conditions, as well as individual factors, are critical factors affecting students' career processes. In this context, it can be concluded that preventive and analytical studies should give priority to students' family-related barriers in the planning of career counselling and support services. Especially in developing countries, family ties appear to be an important factor in career advancement (Abdelghany Mohamed & Hosny Abdel-Hafez, 2021; Schilpzand et al., 2025; Singh & Vinci, 2024). These findings indicate that the perception of employability is not merely a subjective assessment of one's chances of finding a job, but also influences how individuals perceive

the barriers encountered along their career journey. In this context, employability perceptions can be said to serve a protective function by reducing perceptions of career barriers. Supporting evidence for this relationship can also be found in the literature; for instance, Singh and Vinci (2024) demonstrated that individuals with high employability perceptions are able to overcome career barriers through more flexible strategies. Therefore, it is recommended that career counselling and support services focus not only on the identification of barriers but also on practices aimed at strengthening students' employability perceptions.

According to the results of the current study, the female participants' perceptions of career barriers were found to be statistically significantly higher than those of the male participants. This difference has a medium effect size, and it can be concluded that women encounter more barriers in their career processes or perceive these barriers more. On the other hand, in terms of employability perceptions, the male participants were found to have significantly higher scores than the female participants. However, the fact that this difference has a small effect size indicates that its practical effect is limited. This is believed to be caused by the invisible barriers women perceive due to gender inequality. These invisible barriers are called the concept of "glass ceiling" in the literature. Although the health services field is a service sector where women are predominant, it has been revealed by many studies that women perceive career barriers higher (Baduge et al., 2024; Kaur & Mittal, 2022; Khan et al., 2025; Mousa et al., 2021). The current study shows that female students' perception of career barriers is high and employability is low, which is consistent with the literature findings. Based on these findings, it is suggested that social policy-makers can take measures to mitigate the perception of the glass ceiling that begins to form at the level of higher education. Furthermore, policies facilitating women's access to leadership positions in the health sector may be developed, and institutional transformation strategies centred on gender equality may be implemented.

The correlation analysis conducted with the age variable revealed that there was a positively significant but weak relationship between the age of the participants and their perception of career barriers. This shows that the perception of career barriers increases slightly with the increase in age. However, the weakness of the relationship indicates that its practical effect may be limited. It is assessed that the perception of career barriers increasing with age may be due to students losing hope for career development at older ages. Baduge et al. (2024) revealed in their systematic review that age bias may hinder career development. Endalamaw et al. (2024) revealed that age is an important barrier in their systematic review study conducted on healthcare professionals working in primary healthcare services. Pak et al. (2022) revealed age discrimination in the healthcare sector. It was stated that older employees in the healthcare sector have a higher chance of being unemployed. Considering these literature findings, the higher career disability perceptions of older students in this study are considered to be consistent with the literature. On the other hand, no significant relationship was found between age and employability perception. In this regard, the development of supportive social policy tools—such as career counselling services and awareness training against age discrimination—specifically targeting older students, is considered important for reducing the perception of age-related career barriers.

According to the results of the hierarchical regression analysis conducted to determine the extent to which variables are effective on students' perception of career barriers, it is observed that personal characteristics are effective in the first stage, and environmental factors play an important role in the second stage. It has been

revealed in the literature that gender (Baduge et al., 2024; Kaur & Mittal, 2022; Khan et al., 2025; Mousa et al., 2021) and age bias (Baduge et al., 2024; Endalamaw et al., 2024; Pak et al., 2022) among personal characteristics are perceived as important barriers to career advancement. In this context, being a woman and older is perceived as a barrier to career advancement. In the first stage of the regression, it was observed that individuals' positive internal perceptions of their employability have a reducing effect on career barriers. Studies conducted in many countries have concluded that the education received by healthcare professionals is an effective factor in a career (Endalamaw et al., 2024). Karaferis et al. (2022) concluded in a study conducted on healthcare professionals that internal factors in healthcare professionals' own areas of intervention are important factors in focusing on work. Based on this point, it can be evaluated that the students in the current study trust the internal factors in their areas and have a more positive view of being employed. However, with the addition of external factors to the model in the second stage, it was observed that expectations, particularly regarding the labour market conditions, became more decisive and eliminated the effect of the internal competence perception. Turbin et al. (2014) concluded in a study conducted in the healthcare sector that many factors, such as the education and competence of individuals, as well as many external factors, such as legal amendments and the labour market, are effective in careers. In the current study, while the internal employment factors of individuals have a reducing effect on career barriers, the increasing effect of external factors was determined. This finding can be interpreted as the students in this study perceived career barriers at a higher level due to factors beyond their control. Therefore, in addition to supporting students' competencies, it is necessary to develop policies that ensure structural equality in the labour market and recruitment processes, in line with the principle of meritocracy—one of the core principles of human resource management.

In addition, it is concluded that the departments that students study have a significant effect on the perception of career barriers and that career barriers may be perceived more intensely in departments with lower levels of public appointments. This finding can be interpreted as the primary career goal of students studying at a health vocational school is to be appointed to the public. It is evaluated that job security in public health institutions and performance pressure in the private sector play a role in this finding (Savul, 2009; Sobacı, 2022). In order to provide employment suitable for the field of education and training, curricula should be constantly updated according to the needs of the sectors, and strong collaborations should be established with the sector. This strategy can both shorten the employment period and increase the rate of graduates finding jobs compatible with the fields in which they are educated. It is critical for educational institutions to analyse the labour market demands for these departments to serve better and update their curricula in order to increase the level of employability.

Limitations

This study was conducted among students of a health vocational high school located in Ankara that provides education in thirteen different health programs. Participants were selected using the convenience sampling method in order to reach the determined number of people based on equal probability sampling calculation. Therefore, the generalizability of the findings obtained is limited. The results of the study should be considered valid only for the health vocational school where the data were collected and for student groups with similar characteristics. In addition, the fact that no comparison was made in terms of students' departments in this study can be considered as another limitation of the study.

Conclusion

This study examined the influence of individual and environmental variables on the perception of career barriers among students pursuing education in the field of health. The findings of the study revealed that students generally hold positive perceptions regarding both internal and external employability. This positive perception enables individuals to develop a more optimistic outlook on their careers and plays a mitigating role in the perception of career barriers. In particular, a high level of internal employability perception facilitates students' confidence in their own competencies and enables them to perceive encountered barriers as less threatening. Conversely, external factors were observed to impose a more pronounced influence on students, potentially amplifying their perceptions of career barriers.

In terms of gender and age variables, it was found that the female students perceived higher levels of career barriers compared to their male counterparts, and that students in the older age group reported greater perceived obstacles to career development. These findings align with the concepts of the glass ceiling and age bias, which are frequently emphasized in the literature. It was observed that women and older students tend to encounter more barriers in their career processes or perceive such barriers more intensely.

The fact that familial barriers were perceived at a higher level compared to other career barriers indicates that students shape their career paths not only through individual competencies but also in interaction with their social environments. This finding highlights the influence of family ties on vocational decision-making and employment processes, particularly in developing countries. Therefore, in the planning of career counselling services, it is essential to develop supportive and solution-oriented approaches that address not only students' individual qualifications but also their familial responsibilities and environmental pressures.

The findings of the study suggest that the education–employment relationship is not linear, but rather constituted through the interaction of individual and contextual dynamics. Participants' assessments regarding their likelihood of public sector appointment further underscore the role of external employability perception as a critical determinant in the formation of perceived career barriers. Accordingly, the implementation of education policies that are responsive to labour market conditions and sector-specific expectations may serve to enhance employability while concurrently mitigating perceptions of career-related barriers.

Compliance with Ethical Standards

Ethical Approval

In order to conduct the study, ethics committee approval was received from the Çankırı Karatekin University Ethics Board for Scientific, Mathematical and Social Research, dated 12.02.2025 and numbered 50.

Declaration of Conflicting Interests

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GENİŞLETİLMİŞ ÖZET

Eğitimden İstihdama: Sağlık Meslek Yüksekokulu Öğrencilerinin Kariyer Engelleri ve Algıları

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Uğur Uğrak***

Eğitim, bireylerin istihdam edilebilirliklerini artıran en temel faktörlerden biridir. Eğitim yoluyla kazanılan yetkinlikler ve beceriler, işgücü piyasasında talep edilen niteliklere uyum sağlama potansiyelini artırmaktadır (Smith, 2002). Özellikle yükseköğretim, bireylerin mesleki uzmanlık kazanmalarına ve işgücü piyasasında rekabetçi olmalarına katkı sağlamaktadır (Psacharopoulos & Patrinos, 2018). Ancak modern ekonomilerde, yalnızca diploma sahibi olmak artık yeterli görülmemekte ve işverenlerin talep ettiği yetkinliklere sahip olma gerekliliği ön plana çıkmaktadır (Marginson, 2019). Türkiye'de yükseköğretim mezunlarının artan işsizlik oranları, literatürde eğitim-istihdam ilişkisindeki yapısal uyumsuzlukların bir göstergesi olarak yorumlanmaktadır (Palaščáková & Palaščáková, 2020; Yavaş, 2022). Bireyin kendi yetkinliklerine olan güveni (içsel) ile işgücü piyasası koşulları ve sektörel fırsatlara ilişkin beklentileri (dışsal) içeren istihdam edilebilirlik algısı (Guggenberger et al., 2011) ve bireylerin kariyer yolculukları boyunca karşılaştıklarına inandıkları yapısal veya algılanan engelleri kapsayan kariyer engelleri algısı bireylerin işgücüne katılım motivasyonlarını etkilemektedir. Bu araştırmada, üniversite öğrencilerinin kariyer engelleri algısının, istihdam edilebilirlik algıları ile cinsiyet, yaş ve kamuya atanma potansiyeli gibi faktörler tarafından nasıl şekillendirildiği incelenmiştir.

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Araştırmanın evrenini, 2024-2025 akademik yılında Sağlık Bilimleri Üniversitesi Gülhane Sağlık Meslek Yüksekokulunda öğrenim gören öğrenciler oluşturmaktadır. Araştırma örneklemi, evrenden rastgele seçilen 405 katılımcıdan oluşmaktadır. Veri toplama aracı üç bölümden oluşmaktadır. İlk bölüm, katılımcıların demografik özelliklerini (yaş, cinsiyet, medeni durum) belirlemeye yönelik sorular içermektedir. İkinci bölüm, Luzzo ve McWhirter tarafından geliştirilen (2001) ve Kalafat (2014) tarafından Türkçeye uyarlanan, katılımcıların kariyer engelleri algılarını ölçmeye yönelik Algılanan Kariyer Engelleri Ölçeği'ni içermektedir. Üçüncü bölümde, Rothwell ve Arnold (2007) tarafından geliştirilen ve Gerçek ve Atay (2017) tarafından Türkçeye uyarlanan Algılanan İstihdam Edilebilirlik Ölçeği kullanılmıştır. Veriler katılımcılardan çevrimiçi olarak, 15 Şubat - 17 Mart 2025 tarihleri arasında toplanmıştır. Araştırmada elde edilen veriler SPSS yazılımı kullanılarak analiz edilmiştir.

Verilerin analizi sonucunda elde edilen bulgulara göre katılımcıların kariyer engelleri algıları orta düzeyin altındadır. Algılanan Kariyer Engellerinin alt boyutlar incelendiğinde, Kimlik Engelleri ve Destek Kaynağı Engelleri orta düzeyin altında algılanırken, Aile Engelleri diğer engel türlerine göre nispeten daha yüksek düzeyde algılandığı görülmüştür. Algılanan İstihdam Edilebilirlik Ölçeği sonuçları, katılımcıların istihdam edilebilirliklerini orta düzeyin üstünde algıladıklarını göstermektedir; hem İçsel İstihdam Edilebilirlik hem de Dışsal İstihdam Edilebilirlik alt boyutlarında algı düzeyleri ölçek orta noktasının üstündedir.

Cinsiyet değişkeni açısından, kadın katılımcıların erkek katılımcılara göre istatistiksel olarak anlamlı düzeyde daha yüksek kariyer engeli algısına sahip oldukları bulunmuştur ($U=9438.50$, $Z=-5.136$, $p<.01$, $r=0.26$). Medeni durum, çalışma durumu ve bölüm değişkenleri açısından kariyer engelleri algısında anlamlı farklılık bulunmamıştır. İstihdam edilebilirlik algısı açısından, erkek katılımcıların kadın katılımcılara göre ($U=12378.00$, $Z=-2.129$, $p=.033$, $r=.11$) ve çalışan katılımcıların çalışmayan katılımcılara göre ($U=4053.00$, $Z=-2.371$, $p=.018$, $r=.12$) istatistiksel olarak anlamlı düzeyde daha yüksek puanlara sahip oldukları bulunmuştur; ancak etki büyüklükleri düşüktür. Medeni durum ve bölüm değişkenleri açısından istihdam edilebilirlik algısında anlamlı bir fark bulunmamıştır.

Katılımcıların yaşı ile algılanan kariyer engelleri arasında pozitif yönde istatistiksel olarak anlamlı ancak zayıf bir ilişki bulunmuştur ($r=.125$, $p<.05$), yaş ile algılanan istihdam edilebilirlik arasında ise anlamlı bir ilişki tespit edilmemiştir ($r=-.001$, $p>.05$). İki aşamalı hiyerarşik regresyon analizi sonuçlarına göre, Model 1'de cinsiyet ($\beta=.223$, $p<.001$), yaş ($\beta=.119$, $p=.013$) ve içsel istihdam edilebilirlik ($\beta=-.205$, $p<.001$) kariyer engelleri algısını anlamlı şekilde yordamış ve varyansın %11,5'ini açıklamıştır. Model 2'de çevresel faktörler (bölüm ve dışsal istihdam edilebilirlik) eklendiğinde, dışsal istihdam edilebilirlik ($\beta=-.430$, $p<.001$) kariyer engelleri üzerinde en güçlü ve anlamlı negatif etkiye sahip olmuş, içsel istihdam edilebilirliğin anlamlılığı ortadan kalkmıştır. Model 2, cinsiyet ($\beta=.192$, $p<.001$), yaş ($\beta=.118$, $p=.009$) ve bölüm ($\beta=-.093$, $p=.039$) değişkenleriyle birlikte varyansın %24'ünü açıklamış ve Model 1'e göre açıklayıcı gücünde anlamlı bir artış sağlamıştır. Bulgular, cinsiyet değişkeninin her iki modelde de oldukça anlamlı bir etkiye sahip olduğunu göstermektedir.

Bu çalışmada ulaşılan sonuçlara göre, üniversite öğrencileri hem içsel hem de dışsal istihdam edilebilirlik konusunda olumlu algılara sahiptir. Bu olumlu algı, bireylerin kariyerlerine ilişkin daha iyimser bir bakış açısı geliştirmelerini sağlamakta ve bireylerin kariyer engelleri algısında hafifletici bir rol oynamaktadır.

Cinsiyet ve yaş değişkenleri açısından, kadın öğrencilerin ve yaşı daha büyük öğrencilerin daha yüksek düzeyde kariyer engeli algısına sahip olduğu sonucuna ulaşılmış, bu bulguların literatürdeki cam tavan ve yaş ayrımcılığı kavramlarıyla uyumlu olduğu görülmüştür. Aile engellerinin diğer engellere kıyasla daha yüksek düzeyde algılanması, öğrencilerin kariyer yollarını sosyal çevreleriyle etkileşim içinde şekillendirdiklerini göstermekte ve kariyer danışmanlığı hizmetlerinde ailevi sorumlulukları ve çevresel baskıları da ele alan destekleyici yaklaşımlar geliştirmenin önemini vurgulamaktadır. Çalışmanın bulguları, eğitim-istihdam ilişkisinin doğrusal olmadığını, aksine bireysel ve bağlamsal dinamiklerin etkileşimi yoluyla oluştuğunu göstermektedir. Bu doğrultuda, işgücü piyasası koşullarına ve sektöre özgü beklentilere duyarlı eğitim politikalarının uygulanması, istihdam edilebilirliği artırırken aynı zamanda kariyerle ilgili engel algılarını azaltmaya hizmet edebilir. Bu çalışmanın sonuçları, yalnızca verilerin toplandığı sağlık meslek yüksekokulu ve benzer özelliklere sahip öğrenci grupları için geçerli kabul edilmelidir.

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