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Original research article

The influence of glass ceiling perception on career problems in nursing in Turkey: a cross-sectional study

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Abstract
Background: The related literature mentions that nurses experience various career problems in their career processes. Some of the problems are related to gender, and glass ceiling perception has an essential place among these.
Objective: This study aimed to determine the problems experienced by nurses in their career processes and the effect of glass ceiling perception on these problems.
Methods: The population of this descriptive study, conducted between May and June 2022, consisted of 3,758 nurses working in public, private, and university hospitals. The sample consisted of 407 nurses who were randomly selected. Data were collected using the Descriptive Information Form, Glass Ceiling Perception, and Career Problems in Nursing Scale. Normality tests, reliability analyses, descriptive statistical methods, comparison and correlation analyses, and simple linear regression analysis were used to analyse the data.
Results: The mean score of the Career Problems in Nursing scale of the nurses participating in the study was 84.75 ± 28.27, and the mean score of the glass ceiling perception scale was 2.80 ± 0.54, above the average. The model established between career problems in nursing and glass ceiling perception was significant and explained 20.3% of the total variance (F = 46.453; p = 0.000; R^2_{adj} = 0.203).
Conclusion: This study found that the career problems of nurses were above average, and glass ceiling perception was effective in solving these problems.

Keywords: Career problems; Glass ceiling; Nursing

Introduction

The fact that health services have a specialised and complex structure creates the need for many employees with different qualifications to provide these services. In addition, scientific and technological developments and changing social expectations have led to changes in all services provided to society, including health services. To meet the expectations arising from these changes, service providers are expected to continuously change and develop. Nurses, indispensable for healthcare providers, also make and implement professional career plans to adapt to this change and development (Derin, 2020; Sevinç and Sabuncu, 2018).

Some problems may be encountered during the career process, defined as the progression of the person in the job or profession and the unlimited and non-linear experiences gained in this process (Jiang, 2017). According to social cognitive career theory, the problems encountered in the career process are called career barriers, and they may be personal-intrinsic or environmental-contextual. In this process, factors such as the difficulty of working conditions related to the job, inadequacies in wages, gender discrimination, negative attitudes of the family, inadequacy of education, and economic conditions emerge as problems encountered during the career process (Mutlu and Korkut-Owen, 2017). Although gender-based problems encountered in the career process are "decreasing today" due to gender attitudes, they continue to negatively affect women's career development (Hinton, 2017). According to social cognitive theory, for an activity to be perceived as a support or a barrier, it is unnecessary for it to exist or to have the possibility of existing in the future. It is stated that the perception of something as a support or obstacle stems from the individual's beliefs about himself and his environment (Lent and Brown, 2019). Glass ceiling syndrome, which is one of the most essential perceived career barriers, is defined as an abstract, ambiguous, and not clearly defined career barrier that prevents women from reaching top management level regardless of their achievements. Although it seems to be related to women, it is stated that the glass ceiling is also a career problem for men and ethnic minorities (Abbas et al., 2021; Derin, 2020).

As in all other professions, nurses face various problems throughout their careers. However, some factors related to work and demographic characteristics, such as the high number of female employees in the profession, multiple roles that

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women must undertake, workload, and excessive working hours, are influential in the diversity of these problems (Çavmak et al., 2019; Kahraman and Kahraman, 2020). In addition, the recent global pandemic, whose effects continue today, has caused job dissatisfaction, low satisfaction, and career changes, along with increased workload and stress levels of nurses (Bai et al., 2021).

This study aims to determine nurses' perceptions of the glass ceiling, career problems, differences with demographic variables, and the effect of glass ceiling perception on career problems. In line with this purpose, the study aimed to determine the levels of nurses' perception of glass ceiling and career problems, the relationship between glass ceiling perception and career problems, and the effect of glass ceiling perception on career problems.

Materials and methods

Type and pattern of the research

This descriptive and cross-sectional correlational study was conducted to examine the effect of glass ceiling perception on career problems in nurses working in a provincial center.

Place and time of the research

The study was conducted with nurses working in public, private, and university hospitals in a city center between May and July 2022.

Population and sample of the study

The population consisted of 3,758 nurses working in a university and private and public hospitals in a city center. Power analysis was performed using the G-Power program, and it was aimed to reach at least 370 nurses based on a 95% confidence level, 5% confidence interval, and 5% sampling margin of error. The sample consisted of 407 nurses who voluntarily participated in the study by random sampling.

Data collection tools

Introductory Information Form, Glass Ceiling Perception, and Career Problems in Nursing Scale were used as data collection tools.

Introductory information form

In this form, there are four questions about the personal characteristics of the participants (gender, marital status, age, educational status), and five questions about their professional characteristics (the institution and unit they work in, the duration of working in the profession and institution, working order).

The glass ceiling perception scale

The scale developed by Ayşe Karaca in 2007 and the validity and reliability study conducted by Taşkın Kılıç in 2016 was used to measure the Glass Ceiling Perceptions of the participants (Kılıç and Çakıcı, 2016). The scale consists of 18 statements and has 4 sub-dimensions: Multiple Role Assumption (4 items), Personal Preference Perceptions (4 items), Organisational Culture (4 items), and Stereotypes (6 items). When the Likert-type scale, scored between 1–5, approaches 1, the perception of the glass ceiling is interpreted as low, and when it approaches 5, the perception of the glass ceiling is interpreted as high. The scale does not have any cut-off point. Cronbach's alpha value of the original scale was 0.773 in Kılıç's study and 0.717 in this study.

The scale of career problems in nursing

The scale used to measure the career problems of the participants was developed by Çavmak et al. (2019), and its validity and reliability were tested.

The scale consists of 23 items with a 7-point Likert type. The scale has 4 sub-dimensions: Stress and Exhaustion, Organisational Pressure and Professional Incompatibility, Dual Career Problems, and Gender-Related Career Difficulties. The scale does not have any cut-off point. The lowest score that can be obtained from the scale is 23, and the highest score is 161. Scores above average indicate that the relevant dimension is perceived as a low-level career problem.

On the other hand, scores above the average indicate that the related dimension is perceived as a high-level career problem. The Cronbach's alpha values of the original scale were found to be 0.849, 0.832, 0.857, and 0.735 for the sub-dimensions of Stress and Exhaustion, Organisational Pressure and Professional Incompatibility, Dual Career Problems, and Gender-Related Career Difficulties, respectively. This study's values were 0.851, 0.862, 0.901, and 0.752. In addition, while Cronbach's alpha value of the original scale was 0.893, it was found to be 0.912 in this study.

Data collection process

Data were collected using data collection tools with Turkish validity and reliability. The data collection tools were shared with the participants online through random snowball sampling, collected online, computerised, and analysed.

Ethical responsibilities

Via e-mail, permission was obtained from the authors to use the glass ceiling perception and career in nursing scales. Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee (Date: 12.05.2022, Decision No: 122), and institutional permission was obtained from the relevant institutions. After the participants were informed about the purpose of the study and that participation was in accordance with the principles of voluntariness according to the Declaration of Helsinki, their written informed consent was obtained.

Data analysis

The SPSS 22.0 program was used to analyse the study data statistically. The distribution of the data was analysed using Skewness and Kurtosis tests. It was accepted that the Skewness value was 1.117 and the Kurtosis value was –1.101, between –1.5 and +1.5, and showed normal distribution (Tabachnick and Fidell, 2012). Descriptive statistical methods were used to analyse the data. Independent group *t*-tests, one-way analysis of variance (ANOVA), and Tukey's Honestly Significant Difference Test (Tukey HSD Test), one of the advanced analysis methods, were used for intergroup comparisons. The significance level was taken as 0.05. Pearson's correlation analysis was also performed to determine the relationship between the scales. Simple linear regression analysis (enter method) was applied.

Results

The average age of the nurses participating in the study was 36.85 ± 9.38. The majority were women (84.3%), married (65.8%), and bachelor's degree graduates (59.5%). The nurses mainly worked in public hospitals (64.9%) in specialised units (32.4%), had 16 years or more professional work experience

(45.2%), had worked for 5 years or less in institutions (24.3%), and worked day shifts (48.6%) (Table 1).

The nurses' mean Glass Ceiling Perception score was 2.80 ± 0.54. The mean total score of the Career Problems in Nursing Scale was 84.75 ± 28.27 (Table 2).

When the personal and professional characteristics of nurses were compared with Glass Ceiling Perception, it was found that there were significant differences in gender, marital status, age, and educational status variables. It was determined that men scored higher than women in the Multiple Role Assumption, Stereotypes sub-dimensions, and total scale score, and women scored higher than men in the other sub-dimensions. According to marital status, it was found that married people had higher scores than single people in the Multiple Role Assumption sub-dimension and total score (Suppl. Table S1).

Table 1. Distribution of personal and professional characteristics of nurses (*N* = 407)

	n	%
Gender		
Female	343	84.3
Male	64	15.7
Marital status		
Married	268	65.8
Single	139	34.2
Age (Avg. ± SD: 36.85 ± 9.38)		
28 and ↓	114	28.0
29–35	71	17.4
36–43	107	26.3
44 and ↑	115	28.3
Educational status		
High school	40	9.8
Associate degree	62	15.2
Nursing license	242	59.5
Graduate school (Master's degree)	63	15.5
Institution where he/she works		
Ministry of Health Hospital	264	64.9
Private hospital	72	17.7
University hospital	71	17.4
Unit where he/she works		
Internal clinics	104	25.5
Surgical clinics	63	15.5
Specialised units	132	32.4
Polyclinics	54	13.3
Other*	54	13.3
Working years in the profession (Avg. ± SD: 14.79 ± 9.78)		
5 years and ↓	99	24.3
6–10 years	73	17.9
11–15 years	51	12.5
16 years and ↑	184	45.3
Years of practice at the institution (Avg. ± SD: 9.27 ± 7.67)		
5 years and ↓	174	42.8
6–10 years	96	23.6
11–15 years	64	15.7
16 years and ↑	73	17.9
Working order		
Day	198	48.6
Day + Night	145	35.6
Night	64	15.8

Note: Avg. ± SD: Mean ± Standard deviation, * Others: Quality unit, Training unit, Management units.

It was determined that there was a significant difference in Multiple Role Assumptions, Stereotype sub-dimensions, and total scale scores according to the age of the nurses. It was determined that there was a significant difference between the educational level of the nurses and Multiple Role Assumptions, Organisational Culture sub-dimensions, and total scale score (Suppl. Table S1).

In addition, it was determined that there was a significant difference between the institution of employment and Multiple Role Assumption and between the unit of employment and organisational culture. It was found that there was significance between the years of working in the profession and Multiple Role Assumptions and Organisational Culture, and between the years of working in the institution and Multiple Role Assumptions (Suppl. Table S1).

A comparison of the personal and professional characteristics of the nurses and the Career Problems in Nursing Scale is provided in Suppl. Table S2. There was a significant difference between the gender characteristics of the nurses and the Career Problems in Nursing Scale and all its sub-dimensions. It was found that there was a significant difference between marital status and the sub-dimension of Gender-Related Problems in Career, and married nurses experienced more gender-related problems in their careers than single nurses. It was determined that there was a significant difference between the nurses' age, educational status, institutional characteristics, the Gender-Related Career Problems sub-dimension, and between the institution of employment and the total score of the scale.

There was a significant relationship between the unit of employment of the nurses participating in the study and the Dual Careerism sub-dimension. It was determined that there was a significant difference between the participants' years of working in the profession and Stress and Exhaustion, Organisational Pressure and Professional Incompatibility, Gender Related Problems in Career, and the total score of the scale, and between the years of working in the institution and the sub-dimensions of Stress and Exhaustion and Gender-Related Problems in Career (Suppl. Table S2).

The study found a moderate positive correlation between Stress and Exhaustion, Organisational Pressure, Professional Incompatibility, and Gender-Related Career Challenges (r = 0.527; r = 0.446). A moderate positive correlation was found between Organisational Pressure and Professional Incompatibility with the Problem of Dual Career and Gender-Related Career Challenges (r = 0.471; r = 0.501). A weak correlation was determined between the Problem of Dual Career and the Stress and Exhaustion and the Gender-Related Career Challenges sub-dimension (r = 0.360; r = 0.400). A very weak positive correlation was determined between the Stress and Exhaustion and the subdimensions of Multiple Role Assumption, Organisational Culture and Stereotypes (r = 0.199; r = 0.171; r = 0.148). A very weak positive correlation was determined between Organisational Pressure and Professional Incompatibility and the sub-dimensions of Multiple Role Assumptions and Stereotypes (r = 0.217; r = 0.205). A very weak positive correlation was determined between the Problem of Dual Career and the sub-dimensions of Multiple Role Assumption, Organisational Culture, and Stereotypes (r = 0.125; r = 0.157; r = 0.153). We determined a weak positive correlation between Gender-Related Career Challenges and Organisational Culture (r = 0.308), and a very weak positive correlation between the Multiple Role Assumption and Stereotypes (r = 0.180; r = 0.169) (Suppl. Table S3).

In this study, it was determined that the model created between the Career Problems in Nursing Scale and the Glass Ceiling Perception Scale was statistically significant ($p < 0.05$), and the explanatory coefficient was 20.3%. Glass ceiling perception was found to affect career problems in nursing (Suppl. Table S4).

Table 2. Glass Ceiling Perception and Career Problems in Nursing Scale score averages

Scale	Sub-Dimensions	Min.	Max.	Avg. ± SD	Total Avg. ± SD
Perception of glass ceiling	Multiple role assumption	1	5	2.22 ± 1.01	2.80 ± 0.54
	Perceptions of personal preference	1	5	4.32 ± 0.85	
	Organisational culture	1	5	3.27 ± 1.18	
	Stereotypes	1	5	1.88 ± 0.91	
Scale of career problems in nurses	Stress and exhaustion	9	63	39.80 ± 12.54	84.75 ± 28.27
	Organisational pressure and professional incompatibility	7	49	20.90 ± 10.77	
	The problem of dual career	3	21	10.38 ± 5.87	
	Gender-related career challenges	4	28	13.65 ± 6.74	

Note: Avg. ± SD: Mean ± Standard deviation.

Discussion

This study evaluated the glass ceiling perceptions of nurses working in hospitals, career problems, differences with demographic variables, and the effect of glass ceiling perception on career problems. It was determined that the glass ceiling perception of nurses was above the average. The perception was highest in the Personal Preference Perception sub-dimension and lowest in the Stereotypes sub-dimension, and the career problems were above the average, highest in the Stress and Exhaustion sub-dimension and lowest in the Dual Career Problem sub-dimension. In many studies, glass ceiling syndrome ranks high among gender-related career problems. In a study conducted with school administrators, it was stated that the glass ceiling perception of female administrators created difficulties in establishing authority, (Kirişçi and Can, 2020), while in another study, the glass ceiling perception was high. It was stated that it was one of the factors affecting women's career development (Kour and Chib, 2023). In addition, a study investigating the glass ceiling perceptions of women working in the health sector, where most participants were nurses, stated that the glass ceiling was mostly used in the mentoring field. The participants mentioned not having enough female managers as role models (Turan Kurtaran et al., 2024).

When the relevant literature is examined, studies investigate the career-related problems experienced by nurses and other employees in Turkey and the world. A study conducted in the United States of America reported that black nurses experienced various career problems (Iheduru-Anderson, 2020). In another study, it was stated that nurses experience career problems and that these problems differ from those of other professionals due to their working environment and work characteristics (Çavmak et al., 2019). However, in their study, Özlük and Ay (2024) reported that more than half of the participating nurses found it unnecessary to pursue a career in nursing.

Another study investigating careers in nursing mentioned that career barriers may be related to social, individual, and employee perception (Chang et al., 2019). In a study examining studies on the effect of gender on career advancement, it was emphasised that being a minority in a profession dominated by women provides an advantage for men in career advancement in nursing.

In contrast, the careers of female nurses are negatively affected by this situation (Gauci et al., 2023). In her study, Kahraman showed that nurses experience many problems in achieving their career goals and that this situation, called career barriers, is above average for nurses (Kahraman and Kahraman, 2020). These findings are consistent with the results of the study. Technological and communication systems developments change health institutions' functioning and structures, and employees need to improve themselves. Nurses experience problems in their career planning for this purpose for various reasons. The reason for these problems can sometimes be the ethnic origin of the nurse or a career barrier that the nurse perceives.

A statistical difference was found between the perception of the glass ceiling and gender, marital status, age, educational status, and years of service, and between the career problems of nurses and marital status, age, educational status, institution of employment, unit of employment, years of service and years of service in the institution. In this study, glass ceiling perceptions were higher in female nurses in Personal Preference perceptions and Organisational Culture sub-dimensions, and higher in male nurses in Multiple Role Assumption and Stereotypes sub-dimensions. In this study on the glass ceiling and gender perceptions of healthcare workers, glass ceiling perception was found to be higher in female nurses in the sub-dimensions of Personal Preference and Organisational Culture. In the sub-dimensions of Multiple Role Assumption and Stereotypes, the averages of female nurses are higher than the averages of male nurses (Dağdeviren and Aydemir, 2020). Another study found that women experienced learned helplessness and refused to reach higher positions even if given the opportunity (Akın Acuner, 2019).

Another study emphasises that social expectations attribute characteristics such as humanity, compassion, and passivity to women, which leads to stereotyping in the roles assigned to women (Yiğitbaş and Özcan, 2021). With these findings, it can be considered that gender perception is one of the reasons for women's glass ceiling perception. Another finding is that married nurses' Multiple Role Assumption subscale is higher than single nurses. A study stated that some of the glass ceil-

ing barriers are related to the negative effects of family life, especially for married individuals and that this may be due to the roles of marriage and having children (Utma, 2019). The reason for the high mean scores of the 29–35 age group in the Multiple Role Assumption and Stereotypes subscales is that these are the ages when the marriage takes place, and new roles are determined accordingly. When the nurses were evaluated according to their educational levels, it was observed that the mean scores of the nurses with undergraduate education were higher in the Multiple Role Assumption subscale, and the mean scores of the nurses with postgraduate education were higher in the Organisational Culture subscale. Similarly, the study by Çankaya and Çiftçi (2022) determined that the Glass Ceiling Perception was higher in those with postgraduate education.

The higher Glass Ceiling Perception scores of those with postgraduate education may be because postgraduate education is perceived as a career advancement option, and the perception of the glass ceiling increases in this process. Another finding is that those with less professional experience have a higher Glass Ceiling Perception for Multiple Role Assumption, and those with more experience have a higher Glass Ceiling Perception for Organisational Culture. Like these findings, Dağdeviren and Aydemir (2020) also found that those with less professional experience faced more obstacles in assuming multiple roles.

As experience increases, there is a change in the perception of the glass ceiling. This situation can be thought to be because lessons are learned from the experiences as professional experience increases. In this study, the fact that married individuals face more gender-related career problems than single individuals is in line with existing research (Amil, 2015; Soysal and Baynal, 2016). Married women, in particular, may have difficulty in balancing work and private life due to their multiple roles and responsibilities, and employers may not be willing to open a career path for married women due to pregnancy and childbirth.

When age and educational level were evaluated, it was found that the group aged 29 years and over and those with undergraduate and graduate education experienced more career problems than younger people and those with lower educational levels. As nurses' age and education level increase, their awareness of career problems also increases. Another finding of this study is that career problems related to gender were higher in nurses working in the public sector than in nurses working in the private sector. A study stated that employers' career support for healthcare workers is limited, and employees make intensive efforts to progress in their careers (Avery et al., 2022). Some of the problems stem from the attitude of the organisation. The patriarchal social structure may lead to a preference for men to fill managerial positions in state institutions. This study found that nurses working in outpatient clinics reported more problems in the sub-dimension of dual career problems than in clinics. A study on the subject stated that nurses who completed their doctorate have limited use of this status as a career opportunity in the clinic (Hampshaw et al., 2022). Since outpatient clinics are places where nurses work continuously during the day, the lack of shift opportunities and related leave may limit the career development of nurses. Another finding is that those who have worked in the profession and the organisation for a medium and long time report more career problems than those with a short-term work history. In contrast to this finding, Kahraman and Kahraman's study (2020) reported that nurses with less professional experience perceived more career barriers.

The increase in career-related problems may be due to the increase in career expectations and professional awareness as the years of working in the profession increase.

It was determined that glass ceiling perception effectively reduced nurses' career problems. In Soysal and Baynal's study (2016), it is stated that the biggest obstacle in women's careers is related to home and family, which is the glass ceiling.

Another study stated that glass ceiling perception is an obstacle to a career and has social, structural, and managerial reasons (Victor and Shamila, 2018). In a study conducted in the health sector in Saudi Arabia, it is mentioned that the patriarchal social structure is an obstacle to women's careers in the health sector, and this situation creates a glass ceiling for women to reach top management positions (Alobaid et al., 2020). Throughout their professional careers, nurses encounter career barriers that sometimes do not exist concretely but are perceived and arise from various individual and social reasons.

Conclusion

The study results showed that nurses face different problems in their career processes. It was found that nurses' perceptions of the glass ceiling were above average and affected their career problems. Based on these findings, starting from undergraduate education, nurses should be supported in career planning and learning to cope with the career barriers they may encounter. The necessary policies should be developed to solve these barriers. Senior managers in the health sector should exhibit a management approach that will support nurses and increase their motivation. Allocating a certain portion of the number of managers in organisations to women (female manager quota) and giving more place to female manager candidates in the manager training pool can be suggested as some of these approaches. It will be possible to remove career barriers and the glass ceiling by improving nurses' self-confidence. Therefore, it is thought that supporting them professionally, providing training opportunities, and developing mentoring will be effective in breaking the glass ceiling, which is an essential obstacle in women's career path.

Limitations

Since the study is cross-sectional with nurses working in hospitals in a city center and over a certain period, it cannot be generalised to all nurses. In addition, the study was conducted with an electronic questionnaire. The work intensity in the hospitals was another study limitation.

Ethical consideration

Ethical approval for this study was obtained from Dicle University Faculty of Medicine, Non-Interventional Clinical Research Ethics Committee with the date 12-05-2022 and number 122. Institutional permissions were obtained from Dicle University Hospital Chief Physician's Office with the letter dated 16-06-2022 and numbered E-22040584-044-305591 and Diyarbakır Provincial Health Directorate with the letter dated 26-05-2022 and numbered 97893136. The letter from the Bower private hospital, dated 25-06-2022, and written consent were obtained after informing the participants that the purpose of the study and participation was in line with the principles of volunteerism according to the Declaration of Helsinki.

Author contributions

Concept-design: *SÇ, NU*; Collection, analysis or interpretation of data: *SÇ, NU*; Preparing the draft of the study: *SÇ, NU*;

Critical review and final approval: *SÇ, NU*; Fully responsible for all parts of the work: *SÇ, NU*; Seyhan Çerçi and Nermin Uyurdağ contributed equally to this study.

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Conflict of interest
The authors have no actual or potential conflict of interest to declare.

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