International Journal on Lifelong Education and Leadership (2025), 11(1)

Examining the Glass Ceiling Perceptions and Self-Efficacy Perceptions of Female Administrators and Teachers

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Abstract

The aim of this study is to examine the relationship between glass ceiling perceptions and self-efficacy perceptions of female administrators and teachers, to determine whether they differ according to certain variables, and to determine the relationship between the scales. 421 female administrators and teachers working in Artuklu center of Mardin province in the 2023-2024 academic year participated in the study conducted with quantitative method. The thirty-eight-item "Glass Ceiling Syndrome Scale" and the ten-item "General Self-Efficacy Scale" were used as collection tools in this study. After testing the reliability and validity of the scales, the data were analyzed using SPSS 27.0. Descriptive statistics, t-test, ANOVA and multiple regression analyzes were used in data analysis. Considering the results of the research, it was determined that the glass ceiling perceptions of female administrators and teachers were at a medium level, and that glass ceiling perceptions showed a significant difference according to the variables of education level, union membership and place of duty, but there was no significant difference according to the marital status and professional experience variables. Self-efficacy perceptions were also found to be at a medium level. No significant relationship was found between the glass ceiling perceptions of female administrators and teachers and their self-efficacy perceptions. In accordance with this result, it was concluded that the perceived glass ceiling obstacle was a significant predictor of women's self-efficacy perceptions.

Key words: Female administrator/teacher, glass ceiling syndrome, self-efficacy.

Introduction

The modern era has increased the need for women in various professional fields, leading to the creation of new job opportunities and greater diversity in the workforce. As women actively participate in the labor market, numerous challenges have become apparent in traditionally male-dominated work environments. Despite their qualifications and skills, women encounter a series of obstacles based solely on their gender, including issues related to employment, job positions, working hours, and exposure to sexist attitudes. Unfortunately, it is becoming increasingly difficult for women to reach senior management roles. Women aiming for career advancement face various barriers posed by their male colleagues, and the dominance of men in the business world continues to hinder their progress. The increase in female representation in the business world, along with the abundance of successful female role models, has led to extensive research. The challenges faced by women in the workforce have been widely discussed in the academic literature and labeled as the "glass ceiling syndrome" (Çelik, 2018; Telli, 2020).

The term "glass ceiling" refers to the informal barriers within an organization or company that prevent employees, especially women, from advancing to higher positions (Hymowitz & Schellhardt, 1986). Consequently, the concept of the glass ceiling is described as invisible walls ('glass') that women can see through but cannot reach ('ceiling') the executive positions (Bush, 2020).

Despite the progress made in the inclusion of women in the workforce and the establishment of fair employment policies, the representation of women in senior management roles remains a significant issue.

Research Type: Article
DOI: 10.25233/ijlel.1552305

Received: 18.09.2024
Accepted: 19.03.2025
Published: 30.06.2025

Sharma and Kaur (2019), referring to the emphasis of Davidson and Burke, note that this struggle continues in the modern era. Acker (2009) found that even in fields dominated by women, such as nursing and elementary school teaching, men tend to attain managerial and leadership positions. The term "glass ceiling" is used by Turner, Norwood, and Noe (2013) as an allegory representing the limitations and challenges women face in achieving leadership positions. The glass ceiling is a metaphor for the unseen barriers women encounter in advancing within their organizations (Smith, 2012).

Adamovic and Leibbrandt (2023) mention that the glass ceiling phenomenon signifies the difficulties faced by both men and women in the workplace. However, the belief in the glass ceiling more prominently denotes the obstacles hindering women's advancement to high-level positions within an organization (Akbar et al., 2023). The glass ceiling, as expressed by Carnes et al., and Geller (2008), describes a situation where women, despite significant progress in male-dominated fields, are underrepresented or lacking in senior leadership roles. Research by Fernandez and Rubineau (2019) and Kreis (2020) illustrates that this concept represents hidden barriers preventing women from ascending the corporate hierarchy. Women face gender-based obstacles, symbolized by the glass ceiling, as they strive for leadership and prestigious roles. This barrier complicates women's efforts to reach the top of the corporate ladder, regardless of their qualifications.

Gender-based discrimination impacts career choice, influenced by the persistence of patriarchal societal and familial structures. Historically, women were confined to roles deemed nurturing and compassionate, such as wives, mothers, teachers, or nurses. Women defying these gender norms to enter the business world often find themselves restricted to positions supporting others or roles deemed suitable for women, frequently working in sectors traditionally viewed as women's work (Can, 2004). Globally, the proportion of female teachers is high, and this trend is similar in developed countries where professions such as nursing, teaching, and elderly and childcare have a significant female representation (Keskin, Ü. 2022). This division can lead to a bias favoring men in traditionally male-dominated fields such as business, engineering, and law (Kara, 2015).

Bandura (2010) defines self-efficacy as the belief in one's capacities to achieve designated performance levels that affect one's life. In this context, self-efficacy can be viewed as one's perspective on events. It is believed that the presence of social networks reduces the relationship between glass ceiling perceptions and self-efficacy because strong social relationships are seen to differentiate self-efficacy levels in the face of glass ceiling barriers (Lee et al., & Cho, 2016).

Women with high self-efficacy are noted to find it easier to achieve desired positions in their professional lives, whereas those with low self-efficacy face difficulties in reaching their career goals (Bandura, 1973). According to Gist and Mitchell (1992), self-efficacy is gradually acquired as a complex cognitive, social, linguistic, and physical achievement through experience. Thus, education, parents, and other socialization experiences have a strong impact on one's self-efficacy.

Although men and women are legally equal in many countries, including Turkey, women still face challenges in employment and gender-based discrimination within the workforce. Traditional societal roles and patriarchal structures often dominate, influencing employment opportunities and experiences (Yüceol et al., & Çekçi, 2022).

Kılıç (2017) conducted a study on the glass ceiling and self-efficacy in the healthcare sector, making this study unique by focusing on the education sector. The limited number of women in leadership positions in the education sector, as in other fields in Turkey, presents a significant issue. This study aims to fill the gap in the literature regarding the relationship between the glass ceiling perceptions and self-efficacy perceptions of female administrators and teachers. Additionally, it is anticipated that the findings and developed recommendations will benefit future research in this area.

The purpose of this research is to examine the perceptions of glass ceiling syndrome and self-efficacy among female administrators and teachers. This study differs from others by investigating the relationship between glass ceiling and self-efficacy in the education sector, aiming to raise awareness of the glass ceiling issue within this field. Accordingly, the research aims to answer the following questions:

Research Questions:

1. What are the levels of glass ceiling perceptions among female administrators and teachers?
2. What are the levels of self-efficacy among female administrators and teachers?
3. Is there a significant difference between glass ceiling perceptions and certain variables (age, marital status, education level, professional experience, place of duty, and union membership)?
4. Are the glass ceiling perceptions significant predictors of self-efficacy perceptions among female administrators and teachers?

Method

This section provides detailed information about the structure of the research, the target population, data collection methods, the data collection process, and the data analysis methods.

Research Design

This study is designed within a quantitative research framework, utilizing a correlational survey model. Survey models allow for the quantitative or numerical expression of trends, attitudes, or opinions within a universe through studies conducted on samples selected from that universe (Creswell, 2014). Correlation analysis was conducted because it was assumed that the glass ceiling perception would affect the self-efficacy perceptions of female teachers and administrators. The relational screening model, which allows determining the degree of decreasing or increasing relationship between two or more variables, is frequently used in research (Büyüköztürk, 2012; Gay and Airasian, 2000; Karasar, 2024). In this study, the relationship between glass ceiling perceptions and self-efficacy perceptions of female teachers and administrators was examined using the relational scanning method.

Population and Sample

The population of the research consists of 2993 female teachers and female administrators working in public schools in the Artuklu district of Mardin province in the 2023-2024 academic year. The reason why this district is preferred is that it is the central district of Mardin province and its population density is higher than the surrounding districts. In this way, the possibility of collecting sufficient data is high. Artuklu District is the second most densely populated district of Mardin province, with a population of approximately 197,776 people. It is thought that a sample of approximately 400 people can represent this universe, which consists of a total of 2993 people (Balcı, 2022; Büyüköztürk, 2012). Convenience sampling method, one of the purposeful sampling methods, was preferred in the research. Convenience sampling method refers to the collection of data from the population in an economical, easy and fast way (Ural and Kılıç, 2011). In this context, scale forms were applied to 505 teachers working in easily accessible schools. However, considering the control items, only 421 scales that were thought to be error-free were evaluated. Descriptive statistical methods were used to determine the demographic characteristics of the participants. Table 1 presents demographic information on the participants, including age, marital status, workplace, education level, years of professional experience, and union membership.

Table 1. Demographic information of participants (N=421)

Demographic Features	Group	*F*	%
Age group	20-30	185	43.9
	31-41	176	41.8
	42 years above	60	14.3
Marital status	Married	235	55.8
	Single	186	44.2
Workplace	Preschool	43	10.2
	Elemantry school	86	20.4
	Middle school	108	25.7
	High school	184	43.7
Education level	Bachelor's degree	327	77.7
	Graduate degree	94	22.3

Demographic Features	Group	*F*	*%*
Years of experience	1-5	67	15.9
	6-10	98	23.3
	11-15	184	43.7
	16-20	44	10.5
	21 and above	28	6.7
Union membership	Yes	181	43.0
	No	240	57.0
	Total	421	100

Upon examining Table 1, it can be observed that the most represented age group among the participants is 20-30 years, with 185 participants (43.9%), while the least represented is the 42 and above age group with 60 participants (14.3%). Regarding marital status, 235 participants (55.8%) are married, while 186 (44.2%) are single. In terms of workplace distribution, 43 participants (10.2%) work in preschools, 86 (20.4%) in elementary schools, 108 (25.7%) in middle schools, and 184 (43.7%) in high schools. Concerning education level, 327 participants (77.7%) have a bachelor's degree, and 94 (22.3%) have a graduate degree. The distribution of professional experience is as follows: 67 participants (15.9%) have 1-5 years, 98 (23.3%) have 6-10 years, 184 (43.7%) have 11-15 years, 44 (10.5%) have 16-20 years, and 28 (6.7%) have 21 or more years of professional experience. Regarding union membership, 181 participants (43%) are union members, while 240 (57%) are not.

Data Collection Instruments

The data collection form used in the research consists of three sections. The first section includes the "Demographic Information Form" prepared by the researcher, targeting marital status, workplace, education level, professional experience, and union membership of female administrators and teachers. The second section uses the "Glass Ceiling Syndrome Scale" developed by Karaca (2007), and the third section employs the "General Self-Efficacy Scale" developed by Aypay (2010). The Glass Ceiling Syndrome Scale, developed by Karaca (2007), consists of seven sub-dimensions (multiple role overload, women's personal preferences and perceptions, organizational culture and policies, informal communication networks, mentorship, professional discrimination, and stereotypes) and thirty-eight items. The items in the scale are "Taking on Multiple Roles" (1, 3, 4, 5), "Women's Personal Preferences and Perceptions" (6,7,8,9,10,11,12), "Organizational Culture and Policies" (13,14,15,16,17,18,19,20), "Informal Communication Networks" (21,22,23), "Mentoring" (24,25), “Occupational Discrimination” (26,27,28,29,30,31), “Stereotypes” (32,33,34,35,36,37,38). This scale, which consists of 38 items in total, is a five-point Likert rating type. In order to determine the reliability of the data obtained with the survey form, the Cronbach Alpha reliability test was applied. In the context of the results obtained, it was seen that the survey had a reliability above the acceptable rate (Karaca, 2007). The General Self-Efficacy Scale consists of one dimension and ten items. The statements in the scale is a 5-point Likert-type scale that ranges from (1) strongly disagree to (5) strongly agree. In order to ensure the reliability of the scales, control items were added among the items in the survey form. Thus, incorrectly filled out surveys were not included in the data set and reliable data was obtained in the research. In addition to taking the control items into consideration, the skewness and kurtosis values of the scale items were examined. The Cronbach alpha value of the General Self-Efficacy Scale was calculated as .87 and The Cronbach alpha value of the General Self-Efficacy Scale was calculated as .71. Data were collected online via Google Forms.

Data Analysis

The analysis of the research data was performed using the SPSS (Statistical Package for Social Sciences) 27.0 statistical analysis program. The suitability of the data was examined by checking the skewness and

kurtosis values. By looking at the skewness and kurtosis values of the data, it was determined that the values reached were within a safe range (Büyüköztürk, 2024; Hair et al., 2018).

Findings

Table 2. Descriptive analysis results regarding levels of glass ceiling perceptions and self-efficacy perceptions

Scale	Dimension	Number of items	Min.	Max.	X	Ss	Skewnes	Kurtosis
Glass Ceiling	Multiple role handling	5	1.40	4.40	2.71	.59	.383	-.299
	Women's personal preferences and perceptions	7	2.43	4.43	3.26	.34	.235	.478
	Organizational culture and policies	8	2.00	5.00	3.17	.40	.428	1.317
	Informal communication networks	3	1.33	5.00	3.48	.58	-.024	.537
	Mentorship	2	1.00	5.00	3.30	.66	-.083	.640
	Professional discrimination	6	1.17	4.83	2.81	.45	.426	1.523
	Stereotypes	7	1.00	4.57	2.30	.54	.709	.691
	Glass ceiling average	38	2.18	4.13	2.94	.27	.562	1.526
Self-Efficacy		10	1.10	4.00	2.91	.51	-.154	.518

According to the results of the correlation analysis, there was a moderate relationship between all other components. In the study, normality analysis was conducted to assess the suitability of the data for a normal distribution. Skewness and kurtosis values were examined for normality. According to Mayers (2013), skewness and kurtosis values falling within the range of -2 to +2 suggest that the data adhere to a normal distribution. The calculated skewness values for the research scales ranged from -.024 to .709. Given that the kurtosis values ranged from -.299 to 1.526, it was concluded that the data exhibited a normal distribution (Tabachnick and Fidell, 2013). According to the data in Table 2, the lowest score obtained by female teachers or administrators on the dimension of multiple role handling is 1.40, and the highest score is 4.40. The arithmetic mean of the scores obtained by female teachers in this dimension is 2.71, and the standard deviation is .59. Based on these findings, female teachers' perception levels of multiple role handling are generally at a "medium" level. When examining the dimension of women's personal preferences and perceptions, the lowest score obtained by teachers is 2.43, and the highest score is 4.43. The arithmetic mean of the scores obtained by teachers in this dimension is 3.26, and the standard deviation is .34. Based on these findings, female teachers' levels of women's personal preferences and perceptions are generally at a "medium level." In the dimension of organizational culture and policies, the lowest score obtained by teachers is 2, and the highest score is 5. The arithmetic mean of the scores obtained by teachers in this dimension is 3.17, and the standard deviation is .40. Based on these findings, teachers' levels of organizational culture and policies are generally at a "medium level." When examining the dimension of informal communication networks, the lowest score obtained by teachers is 1.33, and the highest score is 5. The arithmetic mean of the scores obtained by teachers in this dimension is 3.48, and the standard deviation is .58. Based on these findings, teachers' levels of informal communication networks are generally at a "high level." In the dimension of mentorship, the lowest score obtained by teachers is 1, and the highest score is 5. The arithmetic mean of the scores obtained by teachers in this dimension is 3.30, and the standard deviation is .66. Based on these findings, teachers' levels of mentorship are generally at a "medium level." When examining professional discrimination, the lowest score obtained in this dimension is 1.17, and the highest score is 4.83. The arithmetic mean of the scores is 2.81, and the standard deviation is .45. Based on these findings, teachers' levels of professional discrimination are generally at a "medium level." In the dimension of stereotypes, the lowest score obtained by teachers is 1, and the highest score is 4.57. The arithmetic mean of the scores in this dimension is 2.30, and the standard deviation is .54. Based on these findings, teachers' levels of stereotypes are at a "low level." When looking at the average glass ceiling, the lowest score obtained by participants is 2.18, and the highest score is 4.13. The arithmetic mean is 2.94, and the standard deviation is .27. Based on these data, participants' perceptions of the glass ceiling are at a medium level. The lowest score for self-efficacy perceptions is 1.10, and the highest score is 4.00. The arithmetic mean is 2.91, and the standard deviation is .51. Based on these data, participants' self-efficacy perceptions are at a "medium level." In summary, the descriptive analysis found that the level of the glass

ceiling scale's informal communication networks dimension is medium, the level of the stereotypes dimension is low, and the levels of the other dimensions are medium.

Findings Related to the Marital Status Variable

Table 3 presents the analysis results regarding the perceptions of the glass ceiling and self-efficacy levels based on the marital status variable.

Table 3. Analysis results regarding the marital status variable of participants

		Marital status	N	$\overline{X}$	SS	sd	*t*	p
Glass Ceiling Perception Scale	*Multiple role handling*	*Married*	235	2.75	.60	419	1.572	.11
		Single	186	2.66	.57			
	Women's personal preferences and perceptions	*Married*	235	3.26	.32	419	-.062	.95
		Single	186	3.26	.35			
	Organizational culture and policies	*Married*	235	3.18	.37	419	.525	.60
		Single	186	3.15	.44			
	Informal communication networks	*Married*	235	3.49	.55	419	.737	.46
		Single	186	3.45	.62			
	Mentorship	*Married*	235	3.32	.66	419	.778	.43
		Single	186	3.27	.66			
	Professional discrimination	*Married*	235	2.83	.45	419	.887	.37
		Single	186	2.79	.46			
	Stereotypes	*Married*	235	2.33	.52	419	1.372	.17
		Single	186	2.26	.56			
	Glass ceiling average	*Married*	235	2.96	.25	419	1.549	.12
		Single	186	2.92	.29			
Self-Efficacy Scale		*Married*	235	2.93	.51	419	.784	.43
		Single	186	2.89	.51			

According to Table 3, when the marital status variable is considered, it is observed that the arithmetic means of married women ($\bar{X}$=2.96, SD=0.25) and the arithmetic mean of single women teachers ($\bar{X}$=2.92, SD=0.29) regarding the levels of glass ceiling perceptions are at a moderate level. When examining the sub-dimensions of the glass ceiling scale, there are no significant differences among the dimensions. Furthermore, the t-test analysis findings indicate that there is no significant difference in the glass ceiling perception levels of female managers and teachers [t(419)=1.549, p=0.12].

According to Table 3, when the marital status variable is considered, it is found that the arithmetic means of the self-efficacy levels of female managers and teachers who are married is ($\bar{X}$=2.93), while the arithmetic mean of single participants is ($\bar{X}$=2.89). The t-test analysis findings indicate that there is no significant difference in the self-efficacy perceptions of the participants [t(419)=0.784, p=0.43].

Cohen's d = (2.91 - 2.94) / 0.408044 = 0.073521 and *Partial eta²* = .0148 are found. These values were evaluated as "low potency" if they were in the range of 0.01 ≤ η2 <0.06, "medium potency" if they were in the range of 0.06 ≤ η2 < 0.14, and "large potency" if they were in the range of η2 ≥ 0.14 (Cohen, 1988). It can be said that the value found in this study has a medium effect size.

Findings Related to the Education Level Variable

Table 4 shows the analysis results regarding the glass ceiling perceptions and self-efficacy levels of female managers and teachers based on the education level variable.

Table 4. Analysis results regarding the education level variable of participants

		Education Level	N	$\overline{X}$	SS	Sd	*t*	p
Glass	*Multiple role handling*	Bachelor's degree	327	2.69	.58	419	-1.378	.16
		Graduate degree	94	2.78	.62			
		Bachelor's degree	327	3.25	.33		-1.591	.11

	Women's personal preferences and perceptions	Graduate degree	94	3.31	.34	419		
	Organizational culture and policies	Bachelor's degree	327	3.14	.41	419	-2.062	.04
		Graduate degree	94	3.24	.36			
	Informal communication networks	Bachelor's degree	327	3.46	.59	419	-.766	.44
		Graduate degree	94	3.52	.54			
	Mentorship	Bachelor's degree	327	3.30	.67	419	-.142	.88
		Graduate degree	94	3.31	.63			
	Professional discrimination	Bachelor's degree	327	2.80	.46	419	-1.099	.27
		Graduate degree	94	2.86	.41			
	Professional discrimination	Bachelor's degree	327	2.28	.54	419	-1.345	.17
		Graduate degree	94	2.36	.55			
	Glass ceiling average	Bachelor's degree	327	2.92	.28	419	-2.322	.02
		Graduate degree	94	3.00	.22			
Self-Efficacy scale		Bachelor's degree	327	2.90	.51	419	-1.105	.27
		Graduate degree	94	2.96	.51			

According to Table 4, based on the education level variable, the arithmetic mean of self-efficacy for female managers and teachers with an undergraduate degree is (X=2.90), with a standard deviation of .51, and for those with a graduate degree, the arithmetic mean is (X=2.96), with a standard deviation of .51, indicating a moderate level. When examining the sub-dimensions of the glass ceiling scale, a significant difference was found in the organizational culture and policies dimension, with undergraduate graduates having an arithmetic mean of 3.14 and a standard deviation of .41, and graduate graduates having an arithmetic mean of 3.24 and a standard deviation of .36; the p-value is p=.04. No significant differences were found between the other sub-dimensions of the glass ceiling scale. According to the t-test analysis results, there is no significant difference in self-efficacy perceptions between female managers and teachers [t(419) = -1.105, p=.27].

According to Table 4, based on the education level variable, the arithmetic mean of glass ceiling perceptions for undergraduate graduates is (X=2.92), and for graduate graduates, it is (X=3.00). According to the t-test analysis results, a significant difference was found between undergraduate and graduate graduates [t(419)=-2.322. p=.02]. These findings suggest that graduate degree holders perceive more glass ceiling barriers in the organizational culture and policies dimension compared to undergraduate degree holders. This result indicates that there is a significant relationship between glass ceiling and self-efficacy perceptions (p<.05), favoring graduate degree holders.

Findings Related to the Union Membership Variable

Table 5. Analysis results for the union membership variable in study 1

		Union Membership	**N**	$\overline{X}$	**SS**	**Sd**	***t***	**p**
Glass Ceiling Perception Scale	*Multiple role handling*	*Yes*	181	2.74	.61	419	.960	.33
		No	240	2.68	.58			
	Women's personal preferences and perceptions	*Yes*	181	3.32	.33	419	3.074	.00*
		No	240	3.22	.34			
	Organizational culture and policies	*Yes*	181	3.23	.39	419	2.581	.01*
		No	240	3.12	.41			
	Informal communication networks	*Yes*	181	3.52	.58	419	1.410	.16
		No	240	3.44	.58			
	Mentorship	*Yes*	181	3.36	.64	419	1.534	.12
		No	240	3.26	.67			
	Professional discrimination	*Yes*	181	2.84	.42	419	.747	.22
		No	240	2.79	.47			
	Stereotypes	*Yes*	181	2.32	.54	419	2.786	.45
		No	240	2.28	.54			
	Glass ceiling average	*Yes*	181	2.98	.25	419	2.786	.00*
		No	240	2.91	.28			
	Self-Efficacy scale	*Yes*	181	2.92	.54	419	.486	.62

No	240	2.90	.49	

According to Table 5, based on the variable of union membership, the arithmetic means of glass ceiling perceptions for female managers and teachers who are union members is (X=2.98), while the arithmetic means for those who are not union members is (X=2.91). Additionally, according to the t-test analysis results, there is a significant difference in the glass ceiling perceptions of female managers and teachers [t(419)=2.786, p=.00].

According to Table 5, based on the variable of union membership, the arithmetic means of self-efficacy for female managers and teachers who are union members is (X=2.92), while the arithmetic means for those who are not union members is (X=2.90). According to the t-test analysis results, there is no significant difference in the perceptions of female managers and teachers [t(419)=.486, p=.62].

Findings Related to the Variable of Professional Experience

Based on the variable of professional experience, the analysis results related to the glass ceiling perceptions and self-efficacy levels of female managers and teachers are presented in Table 7.

Table 7. Analysis results related to the variable of professional experience

		Professional Experience	**N**	$\overline{X}$	**Ss**	**F**	**p**
Glass Ceiling Perceptions Scale	*Multiple role handling*	1-5 years	67	2.73	.55	.474	.75
		6-10 years	98	2.75	.60		
		11-15 years	184	2.66	.59		
		16-20 years	44	2.72	.60		
		21 years and above	28	2.77	.68		
	Women's personal preferences and perceptions	1-5 years	67	3.24	.31	.886	.47
		6-10 years	98	3.26	.33		
		11-15 years	184	3.24	.34		
		16-20 years	44	3.30	.35		
		21 years and above	28	3.36	.32		
	Organizational culture and policies	1-5 years	67	3.17	.34	1.007	.34
		6-10 years	98	3.16	.43		
		11-15 years	184	3.15	.42		
		16-20 years	44	3.16	.28		
		21 years and above	28	3.17	.46		
	Informal communication networks	1-5 years	67	3.43	.49	1.126	.34
		6-10 years	98	3.46	.60		
		11-15 years	184	3.47	.59		
		16-20 years	44	3.46	.58		
		21 years and above	28	3.70	.66		
	Mentorship	1-5 years	67	3.39	.69	.734	.56
		6-10 years	98	3.27	.67		
		11-15 years	184	3.26	.66		
		16-20 years	44	3.30	.62		
		21years and above	28	3.42	.63		
	Professional discrimination	1-5 years	67	2.91	.46	1.411	.22
		6-10 years	98	2.75	.45		
		11-15 years	184	2.81	.45		
		16-20 years	44	2.77	.35		
		21 years and above	28	2.88	.55		
	Stereotypes	1-5 years	67	2.32	.49	1.497	.20
		6-10 years	98	2.36	.56		
		11-15 years	184	2.22	.55		
		16-20 years	44	2.36	.56		
		21years and above	28	2.38	.50		
	Glass ceiling average	1-5 years	67	2.96	.22	1.657	.15
		6-10 years	98	2.94	.26		

	11-15 years	184	2.91	.29		
	16-20 years	44	2.95	.24		
	21 years and above	28	3.04	.32		
Self-Efficacy average	1-5 years	67	2.85	.53	.904	.46
	6-10 years	98	2.90	.46		
	11-15 years	184	2.90	.50		
	16-20 years	44	3.00	.52		
	21 years and above	28	3.03	.68		

According to Table 7, based on the variable of professional experience, the arithmetic means of glass ceiling perceptions for female managers and teachers are as follows: those with 1-5 years of experience have an arithmetic mean of (X=2.96); those with 6-10 years of experience have an arithmetic mean of (X=2.94); those with 11-15 years of experience have an arithmetic mean of (X=2.91); those with 16-20 years of experience have an arithmetic mean of (X=2.95); and those with 21 or more years of experience have an arithmetic mean of (X=3.04). These values are at a moderate level. According to the one-way variance analysis (ANOVA) findings, there is no significant difference in the glass ceiling perceptions of female managers and teachers across different years of service [$F_{(3-417)}$=1.657, p=.15].

According to Table 7, looking at the self-efficacy findings of female managers and teachers, the arithmetic means are as follows: those with 1-5 years of experience have an arithmetic mean of (X=2.85); those with 6-10 years of experience have an arithmetic mean of (X=2.90); those with 11-15 years of experience have an arithmetic mean of (X=2.90); those with 16-20 years of experience have an arithmetic mean of (X=3.00); and those with 21 or more years of experience have an arithmetic mean of (X=3.03). The one-way variance analysis (ANOVA) results indicate that there is no significant difference in the self-efficacy perceptions of participants based on the type of school they work at [$F_{(3-417)}$=.904, p=.46].

Findings Regarding the Place of Employment

Based on the variable of the place of employment, the analysis results of female managers' and teachers' glass ceiling perceptions and self-efficacy perceptions are presented in Table 8.

Table 8. Analysis results regarding the place of employment

		Workplace	**N**	$\overline{X}$	**Ss**	**F**	**p**	**Difference**
Glass Ceiling Perceptions Scale	*Multiple role handling*	Preschool	43	2.58	.53	2.024	.11	
		Elementary	86	2.61	.61			
		Middle school	108	2.75	.54			
		High school	184	2.76	.62			
	Women's personal preferences and perceptions	Preschool	43	3.23	.37	.296	.82	
		Elementary	86	3.25	.36			
		Middle school	108	3.28	.28			
		High school	184	3.26	.35			
	Organizational culture and policies	Preschool	43	3.15	.45	3.718	.01	4<2
		Elementary	86	3.06	.37			
		Middle school	108	3.15	.38			
		High school	184	3.23	.41			
	Informal communication networks	Preschool	43	3.47	.56	1.813	.14	
		Elementary	86	3.38	.69			
		Middle school	108	3.43	.54			
		High school	184	3.55	.54			
	Mentorship	Preschool	43	3.36	.47	.702	.55	
		Elementary	86	3.32	.75			
		Middle school	108	3.22	.61			
		High school	184	3.32	.68			
	Professional discrimination	Preschool	43	2.87	.43	3.136	.02	4>2
		Elementary	86	2.72	.47			
		Middle school	108	2.76	.40			
		High school	184	2.88	.46			
	Stereotypes	Preschool	43	2.24	.53	2.364	.07	

	Elementary	86	2.32	.52			
	Middle school	108	2.19	.49			
	High school	184	2.36	.58			
Glass ceiling average	Preschool	43	2.92	.30	3.404	.01	4<2
	Elementary	86	2.89	.29			
	Middle school	108	2.91	.24			
	High school	184	2.99	.27			
Self-Efficacy average	Preschool	43	2.96	.42	.644	.58	
	Elementary	86	2.96	.43			
	Middle school	108	2.88	.52			
	High school	184	2.89	.56			

According to Table 8, based on the variable of the place of employment, the arithmetic mean of the groups' perceptions of the glass ceiling are as follows: the arithmetic mean of teachers working in preschool is (X=2.92); for teachers working in primary school, it is (X=2.89); for teachers working in middle school, it is (X=2.91); and for teachers working in high school, it is (X=2.99). According to the findings of the one-way ANOVA, there is a significant difference in the glass ceiling perception levels of female managers and teachers between the different educational levels [F(3-417)=3.404, p=.01]. Significant differences were identified in the dimensions of organizational culture and policies and professional segregation of the glass ceiling scale. This difference is in favor of teachers working at high schools. High school teachers perceive organizational culture and policies more positively than primary school teachers. This could be attributed to more established or supportive organizational structures at high school level. According to table 8, there is a significant difference in the professional discrimination of glass ceiling scale (p=.02). High school teachers perceive higher levels of professional discrimination compared to primary school teachers. This may be due to a more complex work environment, increased competition or the presence of biases targeting at specific groups at the high school level. The glass ceiling average perception is higher among high school teacher compared to the primary school teachers (p=.01). In primary schools, lower perceptions of glass ceiling may indicate that promotion process is perceived as more transparent or equitable.

Regarding self-efficacy findings in Table 8, the arithmetic mean for preschool is (X=2.96); for primary school, it is (X=2.96); for middle school, it is (X=2.88); and for high school, it is (X=2.89). According to the results of the one-way ANOVA, there is no significant difference in participants' perceptions of self-efficacy across the different types of schools where they work [F(3-417)=.644, p=.58].

Analysis Results Regarding the Prediction of Glass Ceiling Perception and Self-Efficacy Perception

The fourth research question is expressed as "Are female managers' and teachers' perceptions of the glass ceiling a significant predictor of their self-efficacy perceptions?" To answer this question, multiple regression analysis was applied to the data obtained. The analysis results are shown in Table 9.

Table 9. Multiple regression analysis results regarding the prediction of glass ceiling perception and self-efficacy perception

Variable	B	Standard Eror $_B$	β	T	p	Simple R	Partial R
Constant	2.470	.296		8.348	.00		
Multiple role handling	.085	.066	.098	1.272	.204	.062	.060
Women's personal preferences and perceptions	.452	.098	.299	4.609	.00	.221	.219
Organizational culture and policies	.118	.093	.092	1.268	.206	.062	.060
Informal communication networks	.115	.049	.131	2.355	.01	.115	.112
Mentorship	.092	.043	.118	2.147	.03	.105	.102
Professional discrimination	.206	.085	.182	2.435	.01	.119	.116
Glass ceiling average	-.992	.278	-.533	-3.567	.00	-.173	-.170
$R=.258$, $R^2=.067$, $F_{(4.217}=237.382$. p=.<001							

Looking at the correlation coefficients in Table 9, it is seen that there is a positive and moderate relationship between the glass ceiling and self-efficacy (r = .258). According to the regression values, the glass ceiling perception and self-efficacy perception together show a moderate and significant relationship, $R = .258$, $R^2 = .067$, $p = .001$. Additionally, when examining the t-test results regarding the significance of

regression coefficients, it is seen that perceived glass ceiling barriers are a significant predictor of self-efficacy perceptions. With this value obtained in the research, other factors such as glass ceiling factors, familial burdens or spiritual inner feelings can be included in the model. In this case, new variables can be included in the model by further research.

Results, Conclusions and Recommendations

The aim of this study was to determine and evaluate the glass ceiling perceptions and self-efficacy perceptions of female teachers and managers working in the education sector, and to examine them from the perspective of various variables. The study found that female managers' and teachers' perceptions of the glass ceiling and self-efficacy were at a moderate level, and that self-efficacy was a significant predictor of glass ceiling barriers. This situation reveals that women still encounter significant barriers in career advancement and attaining managerial positions, and these barriers may adversely affect their self-efficacy. There was no significant difference in glass ceiling perceptions based on marital status and professional experience. However, significant differences were found in the sub-dimensions of organizational culture and policies with regard to educational level and union membership. Additionally, significant differences were found in the sub-dimensions of organizational culture and policies and professional segregation concerning the place of employment. A negative relationship exists between self-efficacy and glass ceiling barriers. It was concluded that self-efficacy positively affects women's career advancement and their career development. These results are consistent with studies in the literature on glass ceiling barriers and self-efficacy. For example, Ottu & Inwang (2013) found that women's self-efficacy perceptions significantly impact breaking glass ceiling barriers, which aligns with our findings. Similarly, Batool et al. (2021) identified a negative relationship between self-efficacy and the glass ceiling effect in their study of women. This result is consistent with our findings. Suárez-McCrink (2011) described self-efficacy as a survival ability against educational glass ceiling barriers for women, highlighting the importance of the relationship between self-efficacy and glass ceiling barriers in the education sector.

The results in this research align with the study by Genç et al. (2021), which found a significant relationship between educational level and glass ceiling perception but did not find a significant relationship concerning the place of employment. Higher education level women were observed to encounter more glass ceiling barriers (Tüzel, 2014). Similarly, in line with the findings of this study, Cech and Blair-Loy (2010) conducted research in California, USA, on women working in the technology sector. Their study revealed that highly educated women are more likely to encounter glass ceiling barriers. Structural factors were identified as one of the main reasons contributing to this phenomenon. It can be said that female managers and teachers with a postgraduate education level experience more glass ceiling barriers compared to those with an undergraduate degree.

In contrast to the findings in this research regarding marital status and glass ceiling perception, Akca et al. (2022) found that in the healthcare sector, marital status created significant differences in the sub-dimensions of multiple roles, personal preferences, and stereotypes. This indicates a difference in education compared to other fields. According to findings in the education sector, it can be stated that the impact of marital status on women encountering glass ceiling barriers is not significant enough to make a meaningful difference. Çelik (2018) found a significant relationship between the sub-dimensions of the glass ceiling scale and women working in public and private sectors in Istanbul. Telli (2020) identified differences in glass ceiling syndrome levels among women employees based on demographic variables in a participation bank.

The findings in this research indicated a significant relationship in the sub-dimensions of organizational culture and policies and professional segregation based on the place of employment. Fathy & Youssif (2020) demonstrated that women, when supported similarly to male employees, could achieve the same success as their male counterparts. Fernandez & Rubineau (2019) showed that women in senior management roles were more successful in facing complex challenges. In this context, it can be said that women can easily reach senior management positions when they receive the necessary social support.

Kılıç (2017) found that women had more glass ceiling barriers according to gender in the healthcare sector but did not find a significant relationship between glass ceiling perception and self-efficacy, contrary to our findings. Similarly, Karadirek (2023) found no significant relationship between the glass ceiling and professional self-efficacy in the healthcare sector. According to this conclusion, the findings in the healthcare sector differ from those in the education sector. Titrek et al. (2009) stated in their study on school administrators and teachers that women experience more difficulty in managing emotions in managerial roles compared to men (Titrek et al., 2009).

Ocak (2021) stated that professions such as teaching in education and nursing in healthcare are seen as female jobs, while management, engineering, and driving are seen as male jobs, making it challenging for

women to break these societal norms in the workplace. This observation is supported by both domestic and international studies. It can be said that occupational segregation based on gender confines women to certain stereotypes.

Atınışık (1995) identified an environmental bias against women and a preference for male managers in managerial positions in Ankara. This finding aligns with our results related to professional segregation in the glass ceiling scale. It can be said that there is a bias against women leaders in educational institutions. Similarly, Utma (2019) found that societal perceptions of female managers create a barrier to reaching managerial positions and negatively affect their self-efficacy. Canlı et al. (2013) concluded that women are exposed to occupational gender bias. Also, based on the analyses conducted by Demir (2020), it has been concluded that women in the workforce face glass ceiling barriers due to similar reasons, regardless of the institution, sector, city, country, or continent. In this context, it can be said that society's negative perceptions of women also negatively impact their self-efficacy perceptions. Based on the findings of the research, it is understood that women face challenges related to glass ceiling barriers and self- efficacy both individually and societally.

Regarding the relationship between self-efficacy and glass ceiling barriers, Öztürk et al. (2024) found that female managers' self-efficacy perceptions were lower than those of men due to encountering more problems in their work life compared to male managers. This suggests that environmental factors affect women's self-efficacy perceptions. Çelikten (2004) found that women managers in Kayseri faced lower self-efficacy due to lack of support and multiple role overload. Overall, the results of our study are consistent with findings from other research on glass ceiling perceptions and self-efficacy.

Based on the findings of this study, the following recommendations can be made:

- Shalini Srivastava (2020) suggests that organizational trust and a sense of belonging within an institution can reduce the effects of the glass ceiling through networking, flexible working hours, and family-friendly initiatives.
- To reduce glass ceiling barriers and support women's career development, schools could provide periodic training on gender discrimination awareness.
- Gender equality and fairness can be promoted in managerial appointments by balancing the number of male and female candidates.
- The number of role models among female managers can be increased.
- Training on managerial skills could be provided to enhance self-efficacy among women.
- Efforts can be made to reduce negative biases related to the glass ceiling in the education sector.

Coaching can be provided to female teachers to help them reach managerial positions.

- Transparent criteria for career advancement can be established to encourage objective evaluation.
- Senior management in the education sector can take responsibility for helping female teachers overcome glass ceiling barriers.
- New work models can be implemented to help women maintain a work-life balance.
- Awareness training about glass ceiling barriers can be provided to female employees' families when needed.
- School administrators can organize awareness training for parents to reduce gender bias perceptions regarding occupational segregation.
- Positive self-talk exercises can be implemented to enhance women's self-efficacy perceptions in schools.
- Female role models who have overcome glass ceiling barriers and succeeded can be invited to schools to give motivational speeches.
- The achievements of female managers and teachers in the education sector can be celebrated to support their self-confidence.
- Women can be provided with the opportunity to take leave the work during their biological on period days until to feel good to focus on work.
- As this study used a quantitative method, similar studies could be supported by qualitative or mixed methods to provide different and detailed perspectives on glass ceiling perceptions and self-efficacy.
- Comparisons could be made between glass ceiling perceptions in education and other sectors such as healthcare.
- Further research could explore different variables to contribute to the literature.

The findings of this study are limited to the opinions of 421 female managers and teachers working in public schools under the Mardin Provincial Directorate of National Education.

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