

## A R A Ş T I R M A M A K A L E S İ / R E S E A R C H A R T I C L E

DOI: 10.52122/nisantasisbd.1351337

STRATEGIES FOR BREAKING THE GLASS CEILING: THE STUDY OF  
SCALE DEVELOPMENT

Yeşim KAYA\*

\* İstanbul Nişantaşı University,  
Department of Business Administration.

e-posta: yesim.kaya@nisantasi.edu.tr

ORCID 0000-0003-2192-8492

## ABSTRACT

This study aims to conduct validity and reliability analyses to develop a scale tool on the strategies that break the glass ceiling for women managers. With the help of literature and a prior study in which was examined women's strategies for breaking the glass ceiling via qualitative research method, the statements pool of 68 items was created. Following the pilot study, a scale form consisting of 57 items was obtained. The scale was submitted to women managers. 403 forms were obtained from women senior managers employed in 34 different sectors in İstanbul province, which are fully completed. Using SPSS and AMOS software programs, factor analyses were conducted to analyze the structural validity of the scale. As a result of the analyses conducted, it was created the scale of the strategies for breaking the glass ceiling with eight dimensions named as promotion and female-specific reactions, psychological resilience for success, sacrifices and use of government supports, encouragers for career, institutional supports for career, avoiding from conflict and developing hobbies for network, restrictions for appearance, time management for responsibilities. The eight-factor structure of the scale has been confirmed using a confirmative factor model and data set. Cronbach alpha coefficients were calculated for each dimension of the scale.

**Keywords:** Glass ceiling, breaking glass ceiling, scale development, strategy**Jel Codes:** M1, M5.

## CAM TAVAN AŞMAK İÇİN STRATEJİLER: ÖLÇEK GELİŞTİRME ÇALIŞMASI

## ÖZET

Bu çalışmanın amacı, kadın yöneticilerin cam tavan aşma stratejilerine ilişkin bir ölçek aracı geliştirmek üzere geçerlik ve güvenirlik analizleri yapmaktır. Kadınların cam tavanı aşma stratejilerinin nitel araştırma yöntemiyle incelendiği önceki bir çalışmadan ve literatürden yararlanılarak 68 maddelik ifade havuzu oluşturulmuştur. Pilot çalışma sonucunda 57 maddeden oluşan bir ölçek formu elde edilmiştir. Ölçek kadın yöneticilere sunulmuş ve İstanbul ilinde 34 farklı sektörde çalışan kadın üst düzey yöneticiler tarafından tam olarak doldurulmuş toplam 403 form elde edilmiştir. Ölçeğin yapı geçerliliğini analiz etmek için SPSS ve AMOS yazılım programları aracılığıyla faktör analizleri yapılmıştır. Yapılan analizler sonucunda "terfi ve kadına özgü tepkiler", "başarı için psikolojik dayanıklılık", "fedakârlık ve devlet desteklerinden yararlanma", "kariyer için teşvik ediciler", "kariyer için kurumsal destekler", "çatışmadan kaçınma ve iş çevresi için hobiler geliştirme", "kılık kıyafet kısıtlaması" ile "sorumluluklar için zaman yönetimi" olarak adlandırılan sekiz boyutlu cam tavan aşma stratejileri ölçeği oluşturulmuştur. Ölçeğin sekiz faktörlü yapısı, doğrulayıcı faktör modeli ve veri seti ile doğrulanmıştır. Ölçeğin her bir boyutu için Cronbach alfa katsayıları hesaplanmıştır.

**Anahtar Kelimeler:** Cam tavan, cam tavan aşma, ölçek geliştirme, strateji**Jel Kodları:** M1, M5.

Geliş Tarihi/Received: 26.08.2023

Kabul Tarihi/Accepted: 19.10.2023

Yayın Tarihi/Printed Date: 20.10.2023

**Kaynak Gösterme:** Kaya, Y., (2023). "Strategies for Breaking the Glass Ceiling: The Study of Scale Development". *İstanbul Nişantaşı Üniversitesi Sosyal Bilimler Dergisi*, Özel Sayı(11) 277-293.

## INTRODUCTION

Even though female managers have been shown to have a positive effect on a firm's performance, it is considerably hard for them to reach senior managerial levels due to the glass ceiling. Glass ceiling stems from several theories in the literature. Three different theories explain gender discrimination in management based on the origin of discrimination. These theories have been conceptualized as stereotyping theory, attribution theory, and equity theory. They are complementary to each other rather than exclusive of one another. According to the stereotyping theory, masculine characteristics and behaviors are required to be a manager. Men are competitive and ambitious, act rationally rather than emotionally when making decisions, and have aggressive and objective characteristics. These characteristics cause them to be seen as suitable for management positions. However, women have emotional, empathetic, patient, instinctive, and non-aggressive characteristics. These characteristics of women are deemed unsuitable for management positions, and these stereotypes have spread throughout society. According to attribution theory, while evaluating the manager's contribution to success and failure situations, a distinction is made based on gender. If the female manager is successful, it is referred to other possible factors such as chance, since it is believed that women don't have managerial skills, and their success stems from external context and not skills or ambition. Whereas, in case the male manager has success, it is referred to the male manager's ability to manage. According to the equity theory, people evaluate their investments/inputs and results gained by comparing with the rate of input-output of other people who are in the same conditions as them. As a result of this evaluation, if they perceive fairness, they can be satisfied. If they perceive inequity, they can be unsatisfied. Based on this theory, if employers or managers have a prejudice against women, they can consider that women display a greater effort to cover up the lack of their qualifications. Therefore, they can provide women receiving to limited rewards. This can result in being unsatisfied (Macarie and Moldovan, 2012; Asoy, 2018). Although it is tried to provide equality between women and men such as in the field of employment, leadership, and decision-making at all levels for sustainable development in many countries, no country has achieved gender equality for women yet. Whereas some studies (Nakagawa and Schreiber, 2014; Makochekanwa and Nchake, 2019; Bektur and Arzova, 2020; Graafland, 2020; Burkhardt et al., 2020) prove that a higher proportion of women in management in the private sector has a positive impact on firms' performance, such as increasing stock market returns, generating higher corporate profitability, and environmental performance. Therefore, it is important to provide women breaking the glass ceiling.

Although studies have been conducted on issues regarding the factors of the glass ceiling created for women managers and have been offered some proposals for solving to break the glass ceiling (Adler, 1993; Akpınar-Sposito, 2013;), no study examines the strategies that are applied by successful women managers to reach that level. Also, the literature does not have any scale well developed about using these strategies. In this context, it is important to determine strategies used by women who have reached to senior level and provide women who want to proceed through using these strategies.

Also, traditional career theory focuses on just organizational careers, it does not consider the societal and contextual factors. Whereas it is needed a more complex career theory for women, which includes individual, organizational, and societal factors. Contemporary theory for women's careers also includes these factors. Since this study also considers the contextual factors that influence women's careers, it would contribute to the existing contemporary literature on women's careers.

The research contains four sections: the theoretical framework section that presents a framework for study and reviews previous research to emphasize the gap in literature; next, the sample and measures are explained in the methodology section, afterwards, the findings are presented and interpreted; conclusions are summarized; and discussions and implications are presented in the final section.

### 1. Theoretical Framework

Although it is tried to provide equality between women and men such as in the field of employment, leadership, and decision-making at all levels for sustainable development in many countries, it has been indicated in the report published by the United Nations Statistics Division and called as "World's Women 2020" that no country has achieved gender equality for women twenty-five years since the adoption of the Beijing Declaration and Platform for Action.

Although some studies (Nakagawa and Schreiber, 2014; Makochekanwa and Nchake, 2019; Bektur and Arzova, 2020; Graafland, 2020; Burkhardt et al., 2020) prove that a higher proportion of women in management in the private sector has a positive impact on firms' performance, such as increasing stock market returns, generating higher corporate profitability, and environmental performance, the proportion of women in managerial positions remains low in both the public and private sectors. Globally, women held only 28 percent of executive positions in 2019, and this proportion has not changed from 2019 to 2020 (The Sustainable Development Goals Report, 2022). While there are some regional differences, this ratio has only reached 13% in countries in North Africa, West Asia, and Central and South Asia, and this statistic has not changed significantly over the last 20 years. According to the report published Turkish Statistical Institute and called as "Sustainable Development Indicators, 2010-2019", this proportion was 17.5% in 2019 in Turkey.

Female managers have been shown to have a positive effect on a firm's performance. Some studies have provided evidence about this issue. Post and Byron (2015) have investigated the relationship between women on boards and firm financial performance by combining "the results from 140 studies, and whether these results vary by firms' legal/regulatory and socio-cultural contexts". They found that the relationship between women's board representation and market performance is positive in countries with more gender equality, but negative in countries with less gender equality. Post and Byron (2015) have found that women's representation on board increases the accounting returns, the different knowledge, experience, and values used by each member. In addition to this, female board representation has fulfilled the primary responsibilities such as monitoring and strategy involvement. Since women are characterized by low-power orientation, they can improve the effectiveness of the firm's linkages with stakeholders (Adams and Funk, 2012). "Women display greater awareness of potential risks and are more sensitive to the interests of stakeholders. They are less likely to approve decisions that create negative externalities" (Burkhardt et al., 2020). According to Grove and Montgomery (1999), women leaders emphasize relationships, sharing, and processing. They support and facilitate consensus-based decision-making. They promote a sense of self-worth, active participation, power, and knowledge sharing that helps people transform their interests into organizational goals. It is more possible that woman managers provide heterogeneity in values, beliefs, and attitudes.

Women managers are apart from their male peers in the way of important characteristics. They have greater sensitivity to subordinates' needs and a higher level of intuition about people. They praise their employees and give orders "kindly" to subordinates. They tend to negotiate and experience teamwork more than their male peers (Billing and Alvesson, 1994).

Thanks to these skills, they can reveal critical thinking and creativity in harmony with the firm's strategic roadmap. They can enhance workers' productivity and the firm's outputs by minimizing gender differences between managers and subordinates via policies detailed (Makochekanwa and

Nchake, 2019). Despite these contributions to firms, it is considerably hard for them to reach senior managerial levels due to the glass ceiling, which is defined (Webster et al., 2011) as an invisible barrier to the advancement of women in the workplace regardless of their qualifications. In this context, it is important to determine strategies used by women who have reached to senior level by breaking the glass ceiling and to provide women who want to proceed through using these strategies.

It is needed to explain the factors that constitute the glass ceiling for women managers before determining the strategies to break the glass ceiling. According to the result of the analysis made by Akpınar-Sposito (2013), three main factors were determined from the field study which were most mentioned by both Turkish women and French women. "These include the personal compromises, career encouragers, corporate culture". Some other studies also include some of these factors (Adler, 1993; Webster et al., 2011). It can be stated that Webster et al., 2011 have generally grouped the factors accounting for the glass ceiling as social constraints, organizational constraints, and internal constraints that include Akpınar-Sposito (2013)'s factors. In addition to these main factors, several studies reveal some additional factors that prevent women from reaching up-level management positions. To get a promotion, women also have to struggle with social and cultural barriers (Estler, 1975; Adler, 1993:291; Webster et al., 2011; Ikeji et al., 2012). Another factor for the glass ceiling is the behavioral defaults of women managers. Behavioral defaults displayed by women can prevent their promotion (Catalyst, 2007).

All the glass ceiling factors stem from several theories that are based on gender discrimination. According to the stereotyping theory, women's advancement on the career path for managerial positions is restricted by their characteristics different from men's characteristics, which are regarding managerial success. The feminine characteristics are emotional, empathetic, patient, instinctive, and non-aggressive. Whereas the masculine characteristics are being competitive and ambitious, and acting rationally. Also, these characteristics are regarding successful leaders. These characteristics of men cause them to be seen as suitable for management positions. Therefore, women's opportunities to reach managerial positions are limited. According to the attribution theory, workplace success or failure is not only based on stable, objective factors such as intelligence, professionalism, and skill but also variable and subjective factors such as chance or luck. If the female manager is successful, it is referred to other possible factors such as chance, since it is believed that women don't have managerial skills, and their success stems from external context and not skills or ambition. Whereas, in case the male manager has success, it is referred to the male manager's ability to manage (Terborg and Ilgen; Baroudi and Truman, 1992). The social constraints and internal constraints of the factors that create the glass ceiling are based on the stereotyping theory and attribution theory. According to the equity theory, people evaluate their investments/inputs and results gained by comparing with the rate of input-output of other people who are in the same conditions as them. As a result of this evaluation, if they perceive fairness, they can be satisfied. If they perceive inequity, they can be unsatisfied. Based on the equity theory, women have a possibility to gain rewards such as lower salaries and career advancement opportunities than men due to employers' prejudice against women, even though they reach the same results. Unfortunately, there is also the same negative prejudice that female managers are ill-prepared. Men are better prepared, therefore, their results are more valuable and men need to be rewarded accordingly (Terborg and Ilgen; Baroudi and Truman, 1992; Macarie and Moldovan, 2012; Asoy, 2018). The organizational constraints that create the glass ceiling are based on equity theory.

Social and cultural barriers include the beliefs and expectations for men and women in a society (Webster et al., 2011). While the term of the sex expresses the biological aspect of being a woman or a man; The term of the gender defines the meanings attributed by society and culture, and

expectations to a woman or a man (Dökmen, 2018, pp. 17-18). A society create stereotypes including belief and expectations about how women or men need to behave. Society uses stereotypes to generalize information about people without paying attention to know every person. These stereotypes are reflected in organizations, which are a part of society. (Webster et al., 2011).

"Gender-based discrimination" which associates gender with biological sex, has underlain more discrimination experiences of women in comparison with men in business life (Tahtaloğlu, 2016). Women experience difficulties in business life due to various reasons such as social roles imposed on women that include taking care of children and housework (Adler, 1993; Sullivan & Lewis, 2001; Ezzedeen and Ritchey, 2009; Jauhar & Lau, 2018). Primary responsibilities in the home and managerial responsibilities create a 'double burden' for women (Adler, 1993: 292). Therefore, they are reluctant to reach top management positions (Adler, 1993; Evetts, 2000; Erkal et al., 2022). Erkal et al., 2022 have revealed that women in the manager candidate pool by default are more likely to choose the Opt-out mechanism in the leadership selection process, even though they know that they are the top performers by contrast with the statements of Kanter, 1989 and Taşkın, 2017, which include the statement that women feel incompetent for top managerial positions in terms of necessary knowledge, skills, self-confidence. Primary responsibilities as a wife and mother lead to making compromises on careers for women.

Behavioral defaults state the behaviors and attitudes that women display in the workplace and result in failure in their careers. Women and men managers can have different managerial behaviors which are changed by gender. There are many studies in the literature that women managers have different choices and preferences from men in their core values and risk attitudes in business life. Adams and Funk (2012) have concluded from their study that female managers are more benefactor, concerned, less power-oriented, and more risk-loving in decision-making than males. According to Anh's (2019) findings, women leaders try to embody their leadership by helping others to achieve high results and ensuring that they are satisfied with their lives and work, rather than demonstrating their appearance and competence. Catalyst (2007) revealed that one of the double bind dilemma women managers faces is about extreme perception. Since they're often evaluated against a masculine standard of leadership based on gender stereotypes, women managers are too soft or too tough, not just right. Women have skills like compassion, connection, empathy, understanding, vulnerability, and intuition. These skills lead to a perception that women are less competent leaders. According to this extreme perception, due to their soft attitudes, some people can abuse them by getting away with things. Or they are perceived as too tough. In case they are assertive and aggressive, they are considered unfeminine, not ladylike, and inappropriate as inconsistent with stereotypes. Extreme perceptions based on stereotypes decrease the leadership potential of women, create a lack of confidence, and restrict their opportunities to advance. Women can prefer to be more tough to be able to be perceived as leaders. Schruijer (2006) found that women with masculine gender identity strive to move upwards in the hierarchical position compared to women with feminine gender identity.

## **2. Methodology**

### **2.1. Research Model**

The issue of this research is to conduct validity and reliability analyses to develop a scale tool on the strategies that break the glass ceiling of women managers. Exploratory factor analysis and confirmatory factor analysis were applied to the statements in the questionnaire to determine the structural validity of the scale.



## 2.2. Sample and Data

The universe of the research is composed of women managers who have reached senior management levels by breaking the glass ceiling. A judgement sample method was chosen for all the women at the senior management level in different industries in İstanbul. İstanbul is the locomotive of the economy of Turkey and a city where people from different cultures live and work. Due to these reasons, it was believed that the study conducted in here would be generalized to all of Turkey. In studies where a social institution, group, or a small social system is investigated, a simple random sampling method is not used for the selection of the sample, the presence of certain features such as street gangs, drug addicts, and homeless people are sought in the samples to be selected. Therefore, in non-random sampling techniques (judgement sample), not everyone in the population has an equal chance of being selected for the sample (Lin, 1976; De Vaus, 1990). In this study, a certain feature like reaching to senior management level was sought for the women sample group. Firstly, it was taken into consideration to differentiate the industries. After determining the industries according to the classification of the Ministry of Trade of the Republic of Turkey, it was contacted the women managers employed in these industries by means of a research company. According to Lewis et al. (2003), the maximal sample size for different universe sizes is 384. A total of 403 completed forms were obtained from women who work in different enterprises.

**Table 1.** Background Information Related to Women Managers

Variables		Frequency	%
<b>Education</b>	Primary Education	3	,7
	High School	16	4,0
	University (Vocational School)	36	8,9
	University (Faculty)	245	60,8
	Master	89	22,1
	Doctorate	14	3,5
<b>Marital Status</b>	Single	203	50,4
	Married	200	49,6
<b>Company's Business</b>	Regional	55	13,6
	National	179	44,4
	Global	169	41,9

## 2.3. Development Process of Scale

The scale of the strategies for breaking the glass ceiling was prepared with the aim of measuring the strategies used by women in business life to break the glass ceiling. Since there are no studies that handle the strategies for breaking the glass ceiling, firstly author examined the women's strategies for breaking the glass ceiling via qualitative research method. In that study, it was asked to senior female managers how to cope with the elements that create a glass ceiling such as gender discrimination and gender prejudices in society, organizational culture, some female-specific behavioral faults, personal compromises, and encouragers for careers. It was revealed that “women managers use various strategies for three mean areas that can be conceptualized as work-life and family balance, business life, and career path” (Kaya and Tamer, 2022). As a result of the content analysis of the interviews conducted with senior female managers by means of the MAXQDA software program was determined the statements for scale. 3 academicians who are experts in the field of scale development and dominate the literature on the glass ceiling examined

the statements and their meanings. The statements pool of 68 items considered to be related to three mean areas was created. The scale was prepared in a 5-point Likert-type scale, which is scored as "Never" (1), "Rarely" (2), "Sometimes" (3), "Frequently" (4), and "Always" (5). The form was sent to 60 female senior managers for a pilot study. After the pilot study, it was decided to remove 11 items from the scale. Thus, a scale form consisting of 57 items was obtained. 403 forms were gained from women senior managers employed in 34 different sectors in İstanbul province, which are fully completed. Consequently, analyses were conducted with 403 forms.

### 3. Data Analysis and Findings

#### 3.1. Data Analysis

Factor analyses were used to analyze the structural validity of the scale, and Cronbach alpha coefficients were calculated for each dimension of the scale (Koçyiğit and Tabak, 2020). Factor analyses are carried out in a scale study to reveal the factor structure of a scale tool or to confirm a predetermined structure (Seçer, 2015: 153). It can be mentioned about two types of approaches for factor analyses named as Exploratory Factor Analysis and Confirmatory Factor Analysis. (Guris and Astar, 2015: 415). In exploratory factor analysis, the researcher does not have an expectation about the structure or number of variables. In other words, exploratory factor analysis provides the researcher with the opportunity to investigate the main dimensions to construct a model or theory from the latent structures generally represented by a group of items. However, unlike explanatory factor analysis, the researcher uses confirmatory factor analysis to test a proposed theory or model (Williams vd., 2010: 2-3).

Reliability can be defined as an indication of the stability of measurement values obtained from repeated measurements under the same conditions with a scale tool. A reliable scale means to measure without error. However, since it is often not possible to make an errorless measurement, it needs to decrease the error to increase the reliability of the measurement. There are many methods to calculate the reliability. One of the most used methods for reliability analysis is the Alpha ( $\alpha$  model-Cronbach Alpha Coefficient) Model. This model developed by Cronbach investigates whether the "k" question included in the scale expresses a homogeneous whole. "The alpha coefficient is a measure of the internal consistency of the items in the scale" (Lorcu, 2015). Depending on the alpha coefficient, the reliability of the scale is interpreted as follows (Ibid: 207-208):

- "If  $0 \leq \alpha < 0.40$ , the scale is unreliable.
- If  $0.40 \leq \alpha < 0.60$ , the reliability of the scale is low.
- If  $0.60 \leq \alpha < 0.80$ , the scale is quite reliable.
- If  $0.80 \leq \alpha \leq 1$ , the scale is highly reliable."

However, according to some researchers, "0.50 and above is accepted as a reliable level" (Tabak et al., 2013), and below 0.5 is stated as an unacceptable level (Gliem and Gliem, 2003).

When examining the literature, it is seen that the sample size needs to be controlled first to conduct exploratory factor analysis. Statistical techniques can give an idea about the adequacy of the sample size for exploratory factor analysis. Kaise-Meyer-Olkin's (KMO) sampling adequacy measurement technique is the most frequently used technique. The KMO value reveals a value between 0 and 1, and the closeness of the obtained value to 1 gives an idea about the adequacy of the sample size (Seçer, 2015: 155). KMO value needs to be greater than 0.5, which can be accepted by force. Values between 0.5-0.7 are considered moderate, values between 0.7-0.8 are good, values between 0.8-0.9 are great, and values greater than 0.9 are considered excellent (Field, 2009: 647). An important condition to continue exploratory factor analysis is that the p-value of the Barlett test is less than 0.05. If the p-value is greater than 0.05, factor analysis cannot be applied (Güriş and Astar, 2015: 416).

### 3.2. Findings Related to Exploratory Factor Analysis

Firstly, the KMO value and the p-value of the Barlett test were examined to conduct the factor analyses. The KMO value of 0.916 indicates that the sample is excellent enough for factor analysis. The significance of the p value of the Bartlett's test ( $p= 0.000$ ) indicates that the matrix formed by the relations among the variables is significant for factor analysis, and factor analysis can be conducted.

**Table 2.** Results for Exploratory Factor Analysis

Strategies for Breaking the Glass Ceiling		KMO		Bartlett		Sig		df		
		,916		11221,136		,000		1596		
Dimensions and Factor Loadings										
Items	promotion and female-specific reactions	psychological resilience for success	sacrifices and using of government supports	encouragers for career	institutional supports for career	avoiding from conflict and developing hobbies for network	restrictions for appearance	time management for responsibilities	(Cronbach Alpha)	Means
bus_man4	,835								,903	3,26
bus_man10	,799									3,21
bus_man1	,739									3,58
bus_man6	,732									3,48
bus_man7	,718									3,60
work_life1	,685									3,45
bus_man9	,657									3,98
bus_man11	,629									3,73
bus_man3	,621									3,77
bus_man34	,619									3,81
bus_man24	,561									3,55
bus_man5	,559									3,56
work_life15	,524									3,31
bus_man15		,783							,811	4,31
bus_man14		,780								4,24
bus_man12		,748								4,40
bus_man13		,723								4,28
work_life14			,716						,771	4,14
work_life13			,705							4,16
work_life3			,591							3,93
work_life2			571							3,75
work_life9				,742					,740	4,17
work_life10				,718						3,97
work_life8				,586						4,19
car_path3					,792				,790	4,05
car_path1					,786					3,89
car_path2					,723					4,14
bus_man31						,670			,773	3,67
bus_man32						,667				3,44
bus_man33						,560				3,62
bus_man30						,524				3,79
bus_man29						,523				3,95
bus_man27							,734		,882	3,85
bus_man28							,715			3,76
work_life4								,558	,711	4,1762
work_life5								,554		4,1092
<b>Total</b>									<b>,921</b>	
<b>Explained Variance</b>									<b>Change in Total Variance</b>	
	21,156	8,544	6,503	5,767	5,757	5,727	4,345	3,659		61,458



As a result of the factor analysis, the factor loads of the questionnaires and the overlapping items were analyzed on the Component Matrix table. The items named as car\_path5, work\_life7, work\_life6, bus\_man8, work\_life16, car\_path4, bus\_man2, bus\_man35, bus\_man17, bus\_man18, bus\_man23, bus\_man25, work\_life11, bus\_man16, bus\_man20, bus\_man21, bus\_man22, bus\_man26, bus\_man19, car\_path6, work\_life12 was removed from the analysis because they overlapped loads and the difference between the factor loads were less than 0.10, or the factor loadings of the some items were less than 0.30 (Koçyiğit and Tabak, 2020).

After completing the Exploratory Factor Analysis, "labeling" for dimensions was done by using meaningful expressions according to the items which included in each dimension and are similar. Items of the scale, the dimensions included the items of the scale and the labelling for the dimensions has been shown in Table 3.

**Table 3.** Items of the Strategies for Breaking the Glass Ceiling Scale and Labelled Dimensions

Item Code	New Item No	Items	Name of Dimension
bus_man4	1	When I get promoted, I prefer to stay in the position I am in, if I would experience more stress,	promotion and female-specific reactions
bus_man10	2	I leave the work areas that are thought to be male-specific and can turn to areas where I can make my presence felt.	
bus_man1	3	I consider women's naivety as a balance element, and I take care to act like this.	
bus_man6	4	When I get promoted, I refuse to be promoted if I would get into political conflicts.	
bus_man7	5	I avoid from showing maternal attitudes and behaviors in business life.	
work_life1	6	To balance my work and family life, I may give up on promotion for a while.	
bus_man9	7	I keep my emotions under control to appear strong at work and not lose my strength.	
bus_man11	8	In order to achieve work-life balance, I turn to other work areas where my knowledge, skills, and experience are appropriate.	
bus_man3	9	As a female/female manager, I communicate more sincerely with subordinates, superiors, and peers than with men/male managers.	
bus_man34	10	I get my peers and superiors felt that I am a woman who lives in accordance with social values	
bus_man24	11	I work harder to prove that I don't stay in performance and/or knowledge behind my male peers.	
bus_man5	12	If I believe that my qualifications are not sufficient for the top position, I prefer to stay in my position.	
work_life15	13	I felt/feel that my manager takes on more responsibility in order that I spend more time with my children/family.	
bus_man15	14	In cases where my knowledge and skills are insufficient, I go to the path of learning and improving myself.	psychological resilience for success
bus_man14	15	I always learn new information to improve myself.	
bus_man12	16	I make the necessary effort for success.	
bus_man13	17	I don't give up when I fail.	

work_life14	18	I fully benefited/benefit from the permissions and rights granted to me by the law for childcare.	sacrifices and using of government supports
work_life13	19	I fully benefited/benefit from the permissions and rights that the law gives me for the process of the birth.	
work_life3	20	I can turn to various forms of work (such as remote work, flexible work, and part-time work) to balance my work and family life.	
work_life2	21	I can change my workplace/work field to balance my work and family life.	
work_life9	22	I have relatives who encourage/guide me in my career (such as mother, father, spouse, friend, manager...)	encouragers for career
work_life10	23	Encouraging coding/infusions made by important women from my relatives have/have had a significant impact on my career.	
work_life8	24	My family members/relatives create a field for me to be able to make free decisions about my work.	
car_path3	25	It is supported that women reach management positions in my workplace.	institutional supports for career
car_path1	26	In my workplace, equal opportunities are offered to men and women for wages and fringe benefits.	
car_path2	27	It is enabling that women also benefit from training and development activities in my workplace.	
bus_man31	28	I know the entertainment style of my male peers and superiors, and I can keep up with them.	avoiding from conflict and developing hobbies for network
bus_man32	29	I can be tolerant of the language used by men in informal groups, I can keep up with men.	
bus_man33	30	I can talk about topics (economics, sports, politics) that men like to chat about.	
bus_man30	31	I maintain my cooperative attitude towards those who are willing to conflict.	
bus_man29	32	I prefer to share with people how I feel about their negative behavior rather than conflict.	
bus_man27	33	I pay attention not to wear low-cut clothes in the workplace.	restrictions for appearance
bus_man28	34	I avoid from using remarkable makeup for the workplace.	
work_life4	35	I make a plan for my time to balance my work and family life.	Time management for responsibilities
work_life5	36	I pay attention to using the time effectively for my home and work responsibilities.	

### 3.3. Findings Related to Confirmatory Factor Analysis

Fig. 1. shows the confirmatory factor model about the strategies of women for breaking the glass ceiling. The factor model of the scale of the strategies for breaking the glass ceiling was tested by using the AMOS program (Koçyiğit and Tabak, 2020). For the scale, the p-value of parameter predictive values of each of 36 items is statistically significant ( $p < 0.05$ ). Table XX presents the goodness of fit index of the strategies model for breaking the glass ceiling. As seen in Table XX, the chi-square statistics obtained about the strategies model for breaking the glass ceiling are

significant ( $p = 0.000$ ). However, as mentioned before, since the chi-square value is very sensitive to the sample size, it is not sufficient to evaluate the good fit between the data and the model. Therefore, other harmonization criteria should also be taken into consideration. When the ratio of  $\chi^2$  value to degrees of freedom ( $\chi^2/sd$ ) is analyzed, the fact that this ratio is 1.432 and this value is below 2 indicates a good level of fit. According to the other concordance indices used in the evaluation of the harmony between the data and the model, GFI value 0.931, AGFI 0.901, CFI 0.974, NFI 0.905 and close to 1, RMSEA value 0.060, less than 0.08 and very close to 0.05 indicate a good level of fit between the model and the data set (Ibid, 2020). The eight-factor structure of the scale has been confirmed by means of this model and data set. The path diagrams created by the confirmatory factor analysis have been shown in Figure 1.

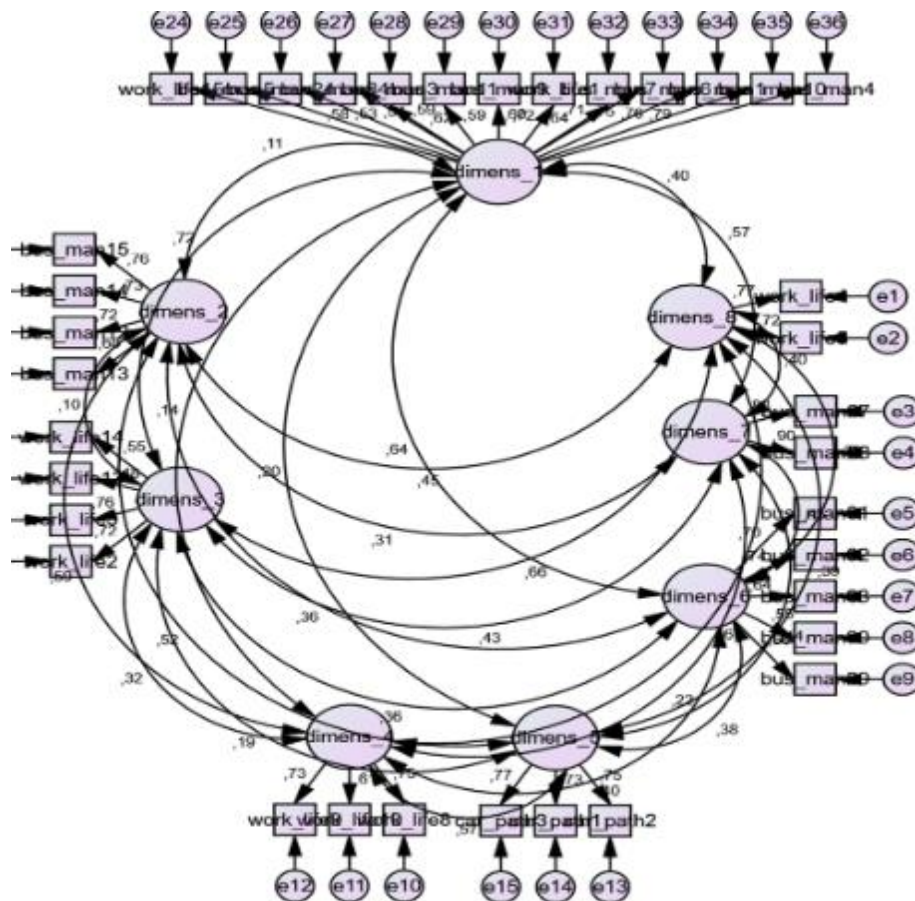


Figure 1. Path diagram-standardized values revealed by CFA

## CONCLUSION

This study tried to develop a scale for strategies to break the glass ceiling based on prior qualitative research method, which identified and conceptualized Turkish female managers' strategies to break the glass ceiling within the framework of elements that create a glass ceiling such as gender discrimination and gender prejudices in society, organizational culture, some female-specific behavioral faults, personal compromises, and encouragers for the career. It had been revealed in the prior qualitative research that women managers use several “strategies in three areas that can be conceptualized as work-life and family balance, business life, and career path” (Kaya and Tamer, 2022). A statements pool of 68 items considered to be related to three

mean areas was created based on that study. The form was submitted to 60 women senior managers for a pilot study. Following the pilot study, a scale form consisting of 57 items was obtained. 403 forms were obtained from women senior managers employed in 34 different sectors in İstanbul province, which are fully completed. Consequently, analyses were conducted with 403 forms. As a result of the analyses conducted, it was seen that the scale of the strategies for breaking glass ceiling had eight dimensions named as promotion and female-specific reactions, psychological resilience for success, sacrifices and using of government supports, encouragers for career, institutional supports for career, avoiding from conflict and developing hobbies for network, restrictions for appearance, time management for responsibilities. The eight-factor structure of the scale has been confirmed by means of a confirmative factor model and data set.

## DISCUSSION AND SUGGESTIONS

Although it is tried to provide equality between women and men such as in the fields of employment, leadership, and decision-making at all levels for sustainable development in many countries, the number of female employees in the business world is increasing, but they are not significantly taking part in corporate leadership positions. Whereas, it has been proven in many studies that the presence of women in management in the private sector increases firm performance in fields such as boosting stock market returns, creating superior corporate profitability, and environmental performance (Nakagawa and Schreiber, 2014; Makochekanwa and Nchake, 2019; Bektur and Arzova, 2020; Graafland, 2020; Burkhardt et al., 2020). Therefore, the promotion of women to upper management levels is important to enterprises, several organizations, and society for sustainable development.

Traditional career theory focuses on just organizational careers, it does not consider the societal and contextual factors. Whereas it is needed a more complex career theory for women, which includes individual, organizational, and societal factors. Contemporary theory for women's careers also includes these factors. It can be seen in the contemporary literature that not only women's careers have been affected by individual factors such as developmental psychology, building social capital, women's values, and attitudes, but also organizational and societal factors such as contexts, life experiences, the external and internal networks, culture (Powell and Mainiero, 1992; La'msa" and Hiillos, 2008; Omair, 2010).

Since women undergo difficulties in their work roles and family roles, they can be mandated to choose between reaching upper managerial levels and fulfilling family responsibilities (White, 1995; Mainiero and Sullivan, 2005). For this reason, women move across career paths as distinct from men due to responsibilities based on gender stereotypes.

Lepine (1992) determined seven career patterns named as fast track, linear, lateral plus, lateral, downward, transitory, and static for women managers. While Richardson (1996) used the metaphor of snake-like careers to describe the career paths of women, Gersick and Kram (2002) determined zigzag career paths that women in their sample drew by utilizing the opportunities that arose. It is important to use the strategies revealed in this study so that the career paths of female managers can be more linear.

Promotion and female-specific reactions, and psychological resilience for success are the strategies for the individual factors that affect women' careers. To empower women employees for these strategies, they can be included in well-being programs by providing coach and psychological support to them.

Sacrifices and using of supports of governments, encouragers for careers, and restrictions for appearance are the strategies for the societal factors that affect women' careers. To support the women for these strategies, social awareness, and the area of freedom for women can be created and made law by governments.

Institutional support for careers, avoiding from conflict, and developing hobbies for networking are the strategies for the organizational factors that affect women's careers.

In this context, the strategies for breaking the glass ceiling revealed in this study are regarding individual, organizational, and societal factors stated by contemporary career theory. In this respect, this study would be able to contribute to the contemporary career theory for women. The scale of the strategies will not only inspire women at all levels of management, but also provide guidance to human resource management practitioners, managers and leaders, and designers of organizational structure and culture. This scale can be also used by academicians for studies in the field of the management and organization, and organizational behavior.

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## EXTENDED ABSTRACT

## GENİŞLETİLMİŞ ÖZET

## CAM TAVAN AŞMAK İÇİN STRATEJİLER: ÖLÇEK GELİŞTİRME ÇALIŞMASI

**Giriş ve Çalışmanın Amacı:** Kadın yöneticilerin bir firmanın performansı üzerinde olumlu bir etkiye sahip olduğu gösterilmiş olsa da, cam tavan nedeniyle üst düzey yönetim kademelerine ulaşmaları oldukça zordur. Kadın yöneticiler için yaratılan cam tavanın etkenleri konusunda çalışmalar yapılmış ve cam tavanı aşmak için bazı çözüm önerileri sunulmuştur ancak başarılı kadın yöneticilerin bu seviyeye ulaşmak için hangi stratejileri uyguladıklarını inceleyen herhangi bir çalışmaya rastlanmamıştır. Ayrıca, literatürde bu stratejilerin kullanımına ilişkin geliştirilmiş herhangi bir ölçek de bulunmamaktadır. Bu nedenle, bu çalışmanın amacı kadın yöneticilerin cam tavanı aşmak stratejilerine ilişkin bir ölçek aracı geliştirmek için geçerlilik ve güvenilirlik analizleri yapmaktır.

**Kavramsal/kuramsal çerçeve:** Bazı çalışmalar (Nakagawa ve Schreiber, 2014; Makochekeva ve Nchake, 2019; Bektur ve Arzova, 2020; Graafland, 2020; Burkhardt vd., 2020), özel sektörde yönetimde daha yüksek oranda kadının yer almasının borsa getirilerinin artırılması, üstün kurumsal kârlılık yaratılması, çevresel performans gibi firma performansının elde edilmesine olumlu etkisi olduğunu kanıtlamış olsa da, hem kamu hem de özel sektörde yönetici pozisyonlarındaki kadın oranı düşük kalmaya devam etmektedir. Küresel olarak, kadınlar 2019 yılında yönetici pozisyonlarının yalnızca %28'ine sahipken 2020'de bu oran değişmemiştir (Sürdürülebilir Kalkınma Hedefleri Raporu, 2022). Bazı bölgesel farklılıklar olmakla birlikte, Kuzey Afrika ve Batı Asya ile Orta ve Güney Asya'daki ülkelerde bu oran ancak %13'e ulaşmıştır ve bu istatistik son 20 yılda önemli bir değişiklik göstermemiştir. Türkiye İstatistik Kurumu tarafından yayınlanan "Sürdürülebilir Kalkınma Göstergeleri, 2010-2019" raporuna göre, Türkiye'de bu oran 2019 yılında %17,5 olarak gerçekleşmiştir.

Alanyazında, kadın yöneticilerin bir firmanın performansı üzerinde olumlu bir etkiye sahip olduğunu kanıtlayan çalışmalar vardır (Post ve Byron, 2015; Adams ve Funk, 2012; Burkhardt vd., 2020; Grove ve Montgomery, 1999; Billing ve Alvesson, 1994; Makochekeva ve Nchake, 2019). Şirketlere sağladıkları bu katkılara rağmen, kadınların niteliklerine bakılmaksızın iş yerinde ilerlemelerinin önündeki görünmez engeller olarak tanımlanan (Webster vd., 2011) cam tavan nedeniyle üst düzey yönetim kademelerine ulaşmaları oldukça zordur. Cam tavan literatürdeki Kalıp Yargılar Teorisi, Atıf Teorisi ve Eşitlik teorisi olarak sınıflandırılmış çeşitli ayrımcılık teorilerine dayanmaktadır.

Bu bağlamda, cam tavanı kırarak üst kademelere ulaşmış kadınların kullandıkları stratejilerin belirlenmesi ve ilerlemek isteyen kadınların bu stratejileri kullanmalarının sağlanması önem taşımaktadır. Cam tavanı aşmaya yönelik stratejileri belirlemeden önce kadın yöneticiler için cam tavanı oluşturan faktörlerin açıklanması gerekmektedir. Akpınar-Sposito (2013) tarafından yapılan analiz sonucuna göre, saha çalışmasında hem Türk hem de Fransız kadınlar tarafından en çok dile getirilen üç ana faktör belirlenmiştir. Bunlar; kişisel ödümler, kariyer teşvik edicileri ve kurum kültürüdür. Diğer bazı çalışmalarda da bu faktörlerden bazılarına yer verilmiştir (Adler, 1993; Webster vd., 2011). Bu ana faktörlere ek olarak, çeşitli çalışmalar kadınların üst düzey yönetim pozisyonlarına ulaşmasını engelleyen bazı ek faktörleri de ortaya koymaktadır. Kadınlar terfi edebilmek için sosyal ve kültürel engellerle de mücadele etmek zorundadır (Estler, 1975; Adler, 1993:291; Webster vd., 2011; Ikeji vd., 2012). Cam tavan için bir diğer faktör de kadın yöneticilerin davranışsal kusurlarıdır. Kadınların sergilediği davranışsal kusurlar terfilerini engelleyebilmektedir (Catalyst, 2007). Cam tavanı aşma stratejileri ölçeği, iş hayatındaki kadınların bu faktörlerin yarattığı cam tavanı aşmak için kullandıkları stratejileri ölçmek amacıyla hazırlanmıştır.

**Yöntem ve Bulgular:** Bu araştırmanın konusu, kadın yöneticilerin cam tavanı aşma stratejilerine ilişkin bir ölçek aracı geliştirmek amacıyla geçerlilik ve güvenilirlik analizleri yapmaktır. Ölçeğin yapısal geçerliliğini belirlemek için ankette yer alan ifadelerin açılımlayıcı faktör analizi ve doğrulayıcı faktör analizi yapılmıştır. Bu çalışmada kadın örneklem grubu için üst yönetim kademesine ulaşma gibi belirli bir özellik aranmıştır. Bu nedenle örneklem için tesadüfi olmayan örnekleme teknikleri (yargı örnekleme) seçilmiştir. Farklı işletmelerde çalışan kadınlardan toplam 403 adet doldurulmuş form elde edilmiştir. SPSS ve AMOS yazılım programları aracılığıyla ölçeğin yapısal geçerliliğini analiz etmek için faktör analizleri yapılmıştır. Yapılan analizler sonucunda terfi ve kadınlara özgü tepkiler, başarı için psikolojik dayanıklılık, fedakârlıklar ve devlet desteklerinden yararlanma, kariyer için teşvik ediciler, kariyer için kurumsal destekler, çatışmadan kaçınma ve network için hobiler geliştirme, dış görünüş için kısıtlamalar, sorumluluklar için zaman yönetimi olmak üzere sekiz boyuttan oluşan cam tavanı aşma stratejileri ölçeği oluşturulmuştur. Ölçeğin sekiz faktörlü yapısı doğrulayıcı faktör modeli ve veri seti aracılığıyla teyit edilmiştir. Ölçeğin her bir boyutu için Cronbach alfa katsayıları hesaplanmıştır.

**Sonuç:** Yapılan analizler sonucunda cam tavan aşmaya yönelik stratejiler ölçeğinin terfi ve kadınlara özgü tepkiler, başarı için psikolojik dayanıklılık, fedakarlıklar ve devlet desteklerinden yararlanma, kariyer teşvik edicileri, kurumsal destekler, çatışmadan kaçınma ve network için hobiler geliştirme, dış görünüş için kısıtlamalar, sorumluluklar için zaman yönetimi olmak üzere sekiz boyuttan oluştuğu görülmüştür. Ölçeğin sekiz faktörlü yapısı doğrulayıcı faktör modeli ve veri seti ile doğrulanmıştır.

**Tartışma ve Öneriler:** Kadınlar iş rolleri ve aile rolleri konusunda zorluklar yaşadıkları için üst yönetim kademelerine ulaşmak ve aile sorumluluklarını yerine getirmek arasında seçim yapmak zorunda bırakılabilmektedir (White, 1995; Mainiero ve Sullivan, 2005). Richardson (1996) kadınların kariyer yollarını tanımlamak için yılan benzeri kariyer metaforunu kullanırken, Gersick ve Kram (2002) örneklemelerindeki kadınların ortaya çıkan fırsatlardan yararlanarak çizdikleri zikzaklı kariyer yollarını belirlemiştir. Kadın yöneticilerin kariyer yollarının daha doğrusal olabilmesi için bu çalışmada ortaya konulan stratejilerin kullanılması önemlidir.

Terfi ve kadına özgü tepkiler ile başarıya yönelik psikolojik dayanıklılık, kadınların kariyerini etkileyen bireysel faktörlere yönelik stratejilerdir. Kadın çalışanları bu stratejiler için güçlendirmek amacıyla koç ve psikolog desteği sağlanarak iyi oluş programlarına dahil edilebilirler.

Fedakarlık ve devlet desteklerinden yararlanma, kariyer teşvik ediciler ile dış görünüş kısıtlamaları kadınların kariyerini etkileyen toplumsal faktörlere yönelik stratejilerdir. Bu stratejilere yönelik kadınların desteklenmesi amacıyla hükümetler tarafından toplumsal farkındalık ve kadınlara yönelik özgürlük alanı oluşturulabilir ve yasalastırılabilir.

Kariyere yönelik kurumsal destekler, çatışmalardan kaçınma ve ağ kurmak için hobi geliştirme, kadınların kariyerini etkileyen örgütsel faktörlere yönelik stratejilerdir.

Bu bağlamda bu çalışmada ortaya konulan cam tavanı kırma stratejileri aslında çağdaş kariyer teorisinin belirttiği bireysel, örgütsel ve toplumsal faktörlerle ilgilidir. Bu açıdan çalışma, kadınlara yönelik çağdaş kariyer teorisine katkı sağlayabilecektir. Stratejiler ölçeği sadece yönetimin her kademesindeki kadınlara ilham vermekle kalmayacak, aynı zamanda insan kaynakları yönetimi uygulayıcılarına, yöneticilere ve liderlere, organizasyon yapısı ve kültürü tasarımcılarına da rehberlik sağlayacaktır. Bu ölçek akademisyenler tarafından yönetim-organizasyon ve örgütsel davranış alanındaki çalışmalarda da kullanılabilir.

## KATKI ORANI BEYANI VE ÇIKAR ÇATIŞMASI BİLDİRİMİ

<b>Sorumlu Yazar</b> <i>Responsible/Corresponding Author</i>	YEŞİM KAYA			
<b>Makalenin Başlığı</b> <i>Title of Manuscript</i>	STRATEGIES FOR BREAKING THE GLASS CEILING: THE STUDY OF SCALE DEVELOPMENT			
<b>Tarih</b> <i>Date</i>	28.08.2023			
<b>Makalenin türü (Araştırma makalesi, Derleme vb.)</b> <i>Manuscript Type (Research Article, Review etc.)</i>	Research Article			
<b>Yazarların Listesi / List of Authors</b>				
<b>Sıra No</b>	<b>Adı-Soyadı</b> <i>Name - Surname</i>	<b>Katkı Oranı</b> <i>Author Contributions</i>	<b>Çıkar Çatışması</b> <i>Conflicts of Interest</i>	<b>Destek ve Teşekkür (Varsa)</b> <i>Support and Acknowledgment</i>
1	YEŞİM KAYA	% 100	There is no conflicts of interest.	