

**Investigating Age as a Moderator of the Relationship  
Between Glass Ceiling Beliefs and Career Advancement  
Satisfaction Among Female Managers in Egyptian Public  
Banks**

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**Abstract**

This study explores the moderating effect of age on the relationship between women's beliefs of the glass ceiling and career advancement satisfaction within Egyptian public banks, particularly focusing on middle managers. It aims to understand the impact of beliefs such as resilience, denial, acceptance, and resignation on career advancement satisfaction among female middle managers. Using a quantitative approach, data were collected from 247 female middle managers at Misr Bank, Banque Du Caire, and National Bank of Egypt. Statistical analyses, including multiple regression and correlation analysis, identified significant relationships. Notably, acceptance and resignation were positively correlated with career advancement satisfaction, while resilience showed a negative association. Furthermore, age has shown an influence on resilience and career

advancement satisfaction. These findings provide insights into women's experiences with the glass ceiling in Egyptian public banks and highlight factors affecting their career advancement satisfaction. Ultimately, the study offers strategies to enhance gender equality and inclusivity by addressing glass ceiling barriers in organizational contexts.

**Keywords:** Glass Ceiling - Glass Ceiling Beliefs - Career Advancement Satisfaction - Career Pathways Scale.

### المستخلص

تستكشف هذه الدراسة التأثير المعتدل للعمر على العلاقة بين معتقدات النساء حول السقف الزجاجي ورضا التقدم الوظيفي داخل البنوك العامة المصرية، مع التركيز بشكل خاص على المديرين المتوسطين. تهدف الدراسة إلى فهم تأثير المعتقدات مثل المرونة والإنكار والقبول والاستقالة على رضا التقدم الوظيفي بين المديرات المتوسطات. باستخدام نهج كمي، تم جمع البيانات من ٢٤٧ مديرة متوسطة في بنك مصر، وبنك القاهرة، والبنك الأهلي المصري. حددت التحليلات الإحصائية، بما في ذلك تحليل الانحدار المتعدد وتحليل الارتباط، علاقات ذات دلالة إحصائية. ولاحظت الدراسة بشكل خاص أن القبول والاستقالة كانا مرتبطين إيجابياً برضا التقدم الوظيفي، في حين أظهرت المرونة ارتباطاً سلبياً. بالإضافة إلى ذلك، أظهر العمر تأثيراً على المرونة ورضا التقدم الوظيفي. توفر هذه النتائج رؤى حول تجارب النساء مع السقف الزجاجي في البنوك العامة المصرية وتسلط الضوء على العوامل التي تؤثر على رضاهن عن التقدم الوظيفي. في النهاية، تقدم الدراسة استراتيجيات لتعزيز المساواة بين الجنسين والشمولية من خلال معالجة حواجز السقف الزجاجي في السياقات التنظيمية.

**الكلمات المفتاحية:** السقف الزجاجي - معتقدات السقف الزجاجي - رضا التقدم الوظيفي - مقياس مسارات التقدم الوظيفي.

## 1.1. Introduction

Despite the global surge in women's participation in the workforce, they still face obstacles in attaining leadership roles, especially evident in Arab nations (Khadri, Subramaniam, Maniam, & Ali, 2016). The underrepresentation of women in top leadership roles highlights this ongoing gap in gender, even in spite of notable advancements in employment and education (Toosi & Morisi, 2017). Despite the increasing number of female employees worldwide, female involvement in senior management remains relatively low, indicating a sluggish progression in women ascending to higher positions (Chao, 2011). The 2014 Catalyst Census of Women on Boards highlights a gradual but inadequate representation of women at upper echelons (Catalyst, 2015). Assaad (2014) provides data indicating that top managerial roles predominantly remain limited to Arab women.

The notion of a "glass ceiling," first used in a Wall Street Journal article on corporate women by Hymowitz and Schellhardt in 1986, has gained significance as a metaphor for discussing gender differences in the workplace. This metaphor often signifies the barriers women face in their pursuit of top management positions across various sectors, including corporations, the public sector, nonprofit organizations, and educational institutions, as well as challenges encountered by men and racial and ethnic minorities

in advancing their careers (Robbins et al., 2012). Women's career advancement is restricted by a number of factors, including organizational culture, gender stereotypes, a lack of recognition of women's abilities, cultural variations between nations, and institutional disadvantages (such as rules and processes) (Sahoo & Lenka, 2016). Moreover, the existence of the glass ceiling is due to the biased view held by those who have comparable age, gender, and leadership style (Sahoo & Lenka, 2016). Despite comparable achievements, education, and experiences, research suggests that women continue to face the phenomenon of the glass ceiling (Sahoo & Lenka, 2016).

## **1.2. Literature Review**

### **1.2.1. Glass ceiling literature**

Over the years, various theories have emerged to elucidate the phenomenon of the glass ceiling, each offering distinct perspectives on its causes and perpetuating factors. Kanter (1977) posited that organizational structures impede women's upward mobility, advocating for organizational change as essential. Grant (1989) and Acker (1990) expanded on this view, with Grant highlighting the replication of organizational norms and women in senior management roles conforming to male-dominated models. Acker emphasized the gendered nature of organizations, where social role stereotypes contribute to perceiving women as less effective leaders. Chugh and Sahgal (2007) found that the

entrenched belief equating "male with supervisor" persists across organizations, accompanied by a lack of formal career planning for women and gender differences in motivation. Collectively, these perspectives underscore the substantial barriers faced by women in ascending to leadership positions within gendered organizational structures.

The role congruity theory was presented by Eagly and Karau (2002) as a means of explaining bias towards female leaders, which is a result of social learning of gender roles. This theory posits incongruence between traditional leadership standards and perceptions of female leadership capabilities. Discrimination against women in leadership roles manifests in less favorable perceptions and evaluations of their leadership behavior compared to men. This bias is attributed to outdated masculine criteria for leadership assessment, hindering women's advancement to senior-level positions. Role congruity theory suggests that prejudice against female leaders arises from incongruence between the female gender role and leadership expectations, while the male gender role aligns more closely with leadership standards (Gervais and Hillard, 2011; Heilman and Eagly, 2008).

Studies conducted in various countries consistently demonstrate women's underrepresentation in top leadership roles despite significant career progress (Khedr, 2017; Saleem, Rafiq & Yusaf, 2017; Nadler, Voyles, Cocke, & Lowery, 2016;

Balasubraman & Lathabhavan, 2018). The obstacles women encounter in achieving leadership roles are often referred to as the "glass ceiling" (Easter, 2016; Sabharwal, 2015). Powell and Butterfield (2015) identified three factors contributing to the significance of the glass ceiling for businesses: organizational effectiveness, organizational justice, and organizational impression management. They discovered that restricting the gender talent pool negatively impacts organizational effectiveness, making biased promotion decisions affect perceptions of organizational justice, and that the management of organizational impressions influences employees' views on fairness.

Although much research concentrates on women's experiences with the glass ceiling, studies show that men also share similar beliefs about its existence (Davis and Maldonado, 2015; Easter, 2016; Glass and Cook, 2014; Subramaniam, Khadri, Maniam, & Ali, 2016). Men often attribute the glass ceiling to the lack of policies empowering females, while women attribute it to stereotypes (Brumley, 2014; Saadin, Ramli, & Harin, 2016).

Observing women's progress in the workplace, Kanter (1977) noted that success was often tied to relationships rather than individual merit, particularly in decision-making roles. Despite progress, women still face individual, social, and organizational barriers to advancement (Caceres-Rodriguez, 2011; Followell, 2014). Strategies employed by women to overcome these barriers

include consistently achieving objectives, acquiring mentors, and developing leadership styles that resonate with both men and women (Caceres-Rodriguez, 2011).

Moreover, the relationship between work satisfaction and the desire to leave is influenced by career advancement expectations and moderated by demographics (Chen et al., 2011). While women today are more likely to occupy top income brackets compared to three decades ago, they still encounter underrepresentation at the highest levels of earnings (Guvenen et al., 2014). Addressing the glass ceiling necessitates an understanding of the barriers women face and the creation of organizational environments conducive to women's advancement (Followell, 2014).

### **1.2.2. Career Advancement Literature**

Kanter (1977) proposed that mobility within the workplace plays a crucial role in shaping employee behavior and job engagement, contributing to greater self-fulfillment, expanded objectives, and upward orientations. Conversely, a lack of mobility may lead employees to remain unaware of or assume that their initial position within the organization is suitable (Kanter, 1977; Nouri & Parker, 2013). Additionally, career advancement, a dynamic construct evolving over time, is influenced by both situational and personal factors, with a dearth of advancement potentially resulting in withdrawal behaviors and decisions to leave (Zhao & Zhou, 2008; Kostetas, 2011).

Tharenou (1990) delineated conventional and modern approaches to understanding women's achievement behaviors and career advancement, highlighting the role of contextual factors alongside internal psychological characteristics. Hede and Ralston (1993) found that female managers exhibited less desire for upward mobility compared to their male counterparts, suggesting that lateral moves might offer greater satisfaction for women.

Metz & Tharenou (2001) identified human and social capital, promotional opportunities, managerial motivation, and masculinity as influential factors in women's career advancement. However, they noted inconsistencies between quantitative and qualitative data concerning the impact of social capital on women's career progression.

Bombuwela and De Alwis (2013) found moderate connections between the glass ceiling and women's career advancement. They highlighted the significance of individual factors, managerial support, financial incentives, and career opportunities in reducing depersonalization and promoting personal achievement.

Hultin (2003) observed greater internal promotional opportunities for males in traditionally feminine professions compared to equally skilled female peers, suggesting that employment in female-dominated fields may impede women's mobility. Semykina and Linz (2013) noted a positive correlation



between career satisfaction and promotional prospects for women in managerial roles, influenced by worker personality traits and organizational characteristics.

In summary, these findings highlight the multifaceted nature of women's career advancement, influenced by individual attributes, situational contexts, and organizational dynamics (Kanter, 1977; Tharenou, 1990; Metz & Tharenou, 2001; Bombuwela & De Alwis, 2013; Semykina & Linz, 2013).

### **1.2.3. Career Satisfaction Literature**

Robbins and Judge (2011) define career satisfaction as an individual's overall attitude towards their occupation, while Sultana, Sarker, & Prodhan (2017) describe it as the degree of satisfaction within one's profession. Arogundade & Arogundade (2015) emphasize personal sentiments about jobs, encompassing factors such as pay, rewards, and general attitude towards one's profession, as significant determinants of career satisfaction. Despite encountering more occupational challenges such as inadequate wages and limited advancement opportunities, research consistently indicates that women often express greater career satisfaction than men. (Chaudhry, 2018; Grönlund, 2018; Lup, 2018; Macintosh & Krush, 2014). Grönlund (2018) suggests that this phenomenon could be attributed to lower career expectations among women or a preference for work-life balance over career progression.

Two distinct approaches to examining career satisfaction are subjective and objective. Shockley et al. (2016) define subjective success as attitudes towards achieving personal goals, while Nyberg et al. (2015) highlight objective success based on factors such as income, advancement prospects, and professional growth. Enache et al. (2011) identified differences in perspectives between men and women, with men viewing career satisfaction through a more objective lens, while women prioritize subjective measures, emphasizing the sense of accomplishment over wage disparities and career advancement.

In the context of India, Memon (2017) investigated the connections between the glass ceiling, job satisfaction, and gender discrimination among female employees, revealing a significant correlation between gender discrimination and job satisfaction. Westover and Peterson (2019) identified four categories influencing career satisfaction: extrinsic rewards, intrinsic rewards, work relationships, and work-life balance. While both men and women reported comparable levels of satisfaction, men demonstrated a greater interest in extrinsic rewards, while women prioritized work-life balance for their career contentment.

#### **1.2.4. The Glass Ceiling and the Career Pathway Survey Development**

The Wall Street Journal coined the concept of "glass ceiling" in 1986 to describe the obstacles that hinder women and

minorities from reaching top corporate roles (Pai & Vaidya, 2009). Various analytical frameworks have been proposed to elucidate the underlying causes of this phenomenon, including the human capital model, socio-psychological model, and structural model (Choi & Park, 2014). According to the human capital model, disparities in individual preferences stemming from differences in education, work experience, and qualifications contribute to gender inequities (Hakim, 2006; O'Connor, 2001). However, critics contend that societal norms and gender stereotypes constrain women's choices, thus failing to fully explain the persistence of discrimination (Broadbridge, 2008; Tlaiss & Kauser, 2011).

The socio-psychological model attributes gender inequality to deeply ingrained expectations regarding women's roles as caregivers or homemakers, which influence promotion decisions within organizations (Hoobler et al., 2009). Eagly and Karau (2002) underscore the societal and organizational associations of gender characteristics, with communal traits typically associated with women and agentic traits associated with men, thereby influencing perceptions of leadership. Scholars focusing on the structural model highlight systematic challenges embedded in corporate policies, such as barriers to accessing power and relationships, as significant obstacles to women's advancement (Fassinger, 2008).

Wrigley (2002) observed conflicting perspectives on the glass ceiling among women, theorizing the concept of "negotiated resignation" as a form of denial. Smith et al. (2012a, 2012b) further developed this notion, identifying resilience and denial as positive beliefs and acceptance and resignation as negative beliefs concerning the glass ceiling. They categorized these beliefs into optimistic-pessimistic sets, wherein resilience and denial represent positive beliefs conducive to career advancement, while acceptance and resignation represent pessimistic views acknowledging barriers.

### **1.2.5. Glass Ceiling Beliefs**

The notion of the glass ceiling, initially introduced by the Wall Street Journal in 1986, delineates the obstacles impeding the progress of women and minorities into upper echelons of corporate hierarchy (Pai & Vaidya, 2009). Wrigley (2002) concluded that systemic issues and socialization mechanisms underpin the existence of the glass ceiling, coining the term "negotiated resignation." Smith, Crittenden et al. (2012) further elaborated on this concept, identifying resignation, denial, acceptance, and resilience as four distinct attitudes towards the glass ceiling. These attitudes significantly influence women's behaviors concerning career advancement, with resignation linked to the abandonment of pursuit for promotions, while

denial reflects the belief that glass ceilings are fictitious (Smith, Crittenden et al., 2012).

In response to the absence of adequate assessment tools for women's perceptions of the glass ceiling, Smith et al. (2012) endeavored to develop the Career Pathway Survey (CPS). This instrument aims to gauge optimistic and pessimistic attitudes towards the glass ceiling in the context of pursuing promotions. Through statements addressing resignation, acceptance, denial, and resilience, the CPS facilitates the examination of individuals' perspectives on seeking career advancements (Smith et al., 2012).

The theoretical underpinning of the CPS draws heavily from Eagly and Karau's (2002) role congruity theory, which elucidates bias against women executives based on societal perceptions of communal and agentic traits. According to this theory, traits traditionally associated with men, deemed agentic, are considered imperative for effective leadership, whereas communal traits, stereotypically linked with women, are not viewed as conducive to leadership roles (Eagly & Karau, 2002).

Throughout history, gender disparities have been characterized by the attribution of communal (feminine) and agentic (masculine) traits, with men typically ascribed agentic characteristics essential for leadership (Eagly & Karau, 2002). Conversely, women, often perceived as possessing primarily communal traits, confront underrepresentation in leadership

positions (Duehr & Bono, 2006; Eagly & Carli, 2007). Through its design, the CPS endeavors to capture these perceptions and beliefs concerning women's leadership aptitude vis-à-vis the glass ceiling (Smith et al., 2012).

In summary, the CPS functions as a thorough tool for assessing women's perspectives on the glass ceiling and their subsequent career advancement actions, rooted in theoretical frameworks like role congruity theory (Eagly & Karau, 2002). By enabling the exploration of optimistic and pessimistic sentiments regarding the glass ceiling, this instrument furnishes valuable insights into the challenges encountered by women in navigating their professional trajectories (Smith et al., 2012).

### **1.2.6. Glass Ceiling in Egyptian Context**

Egypt's economy stands out as robust within the Middle East and North Africa region; however, despite improvements in skill levels, women's labor market prospects in the country remain among the lowest globally (Kandil, 2015). Legal measures such as the 2003 Egyptian Labour Law and constitutional amendments in 2014 have been introduced to promote gender equality and advance women's rights and participation in Egypt (Burke & El-Kot, 2011). Nevertheless, challenges persist, with women expressing perceptions that policies supporting their leadership roles are inadequately implemented (Aboud & Salem, 2016).

Cultural traditions and societal expectations significantly contribute to women's issues in Egypt, with entrenched norms often constraining women's employment opportunities and reinforcing traditional gender roles (Robbins et al., 2012). Work is typically perceived as a male domain, while caregiving responsibilities are predominantly associated with women, resulting in gendered occupational segregation (Burke & El-Kot, 2011). Despite evolving attitudes potentially influenced by urbanization and education, stereotypical views against women managers persist in Egyptian society (Elsaid & Elsaid, 2012).

Kheder's (2017) research highlights gender disparities in glass ceiling beliefs within Egyptian workplaces, with women middle managers more inclined towards resignation beliefs while men perceive working women as resilient. Gender significantly influences beliefs about female managers, with no notable differences observed between the public and private sectors, as indicated by Mostafa (2005) and Askar & Ahmad (2003). However, Kheder (2017) recommends industry-specific research to gain a deeper understanding of the issue.

To address these challenges, Kheder (2017) suggests further research focusing on specific industries like the banking sector, integrating factors such as age, marital status, education level, and salary to enhance comprehension of women's glass ceiling beliefs and their correlation with career advancement

satisfaction in Egypt. This targeted approach holds promise for providing valuable insights into the multifaceted challenges faced by Egyptian women across various professional domains.

In summary, the persistence of the glass ceiling phenomenon poses a significant obstacle to women's advancement to top leadership positions globally. Theoretical frameworks such as Kanter's organizational structures, Acker's gendered organizations, and Eagly and Karau's role congruity theory offer insights into the systemic barriers and biases contributing to this phenomenon. Despite progress, women continue to have inadequate representation in leadership positions across different countries and industries.

Furthermore, the development of assessment tools like the Career Pathway Survey (CPS) offers valuable insights into women's attitudes towards the glass ceiling and their career advancement behavior. In Egypt, cultural norms and societal expectations further worsen the challenges faced by women in ascending to leadership positions. Addressing the glass ceiling necessitates comprehensive efforts to dismantle systemic barriers, challenge gender biases, and foster organizational environments supportive of women's advancement. Future research focusing on specific industries and incorporating demographic factors will deepen understanding of women's



experiences with the glass ceiling and inform strategies for promoting gender equity in leadership.

### **1.3. Research Problem**

This study explores the impact of glass ceiling beliefs on women's career satisfaction within Egyptian Public Banks. Informed by previous research highlighting obstacles like cultural norms and unconscious biases, the investigation seeks to understand how these beliefs influence perceptions of career advancement satisfaction. Drawing on Eagly and Karau's role congruity theory, the study employs the Career Pathways Scale (CPS) developed by Smith et al. (2012) to categorize beliefs into acceptance, denial, resignation, and resilience. By surveying women in middle-level management roles, the research aims to uncover the dynamics between beliefs of the glass ceiling and satisfaction with career progression. Additionally, the study examines how age acts as a moderating factor in this relationship. Ultimately, this research contributes to a deeper comprehension of the challenges women face in progressing within Egyptian Public Banks, shedding light on factors that impact their satisfaction levels.

### **1.4. Research Question**

The main aim of this study is to examine the relationship between glass ceiling beliefs (specifically denial, acceptance,

resignation, and resilience) held by middle-level female managers and how these beliefs influence women's satisfaction with career advancement, with age acting as a moderating factor. The main research question is: "Does age moderate the relationship between a woman's glass ceiling beliefs (independent variable) and her level of career advancement satisfaction (dependent variable)?"

The research question guiding this study is as follows:

*To what extent age moderates the relationship between a woman's glass ceiling beliefs and her satisfaction with career advancement?*

### **1.5. Research Variables**

The research variables are:

- 1- Independent variable: glass ceiling beliefs, categorized into denial, acceptance, resignation, and resilience
- 2- Dependent variable: career advancement satisfaction
- 3- Moderating variable: age

### **1.6. Research Objective**

This research endeavors to explore the perceptions of Egyptian women regarding the glass ceiling and its implications for their satisfaction with career advancement, aiming to address

the underprivileged status of Arab women in managerial positions. The study seeks to accomplish this by examining the configuration of career pathway surveys among Egyptian women, validating the survey measure proposed by Smith et al. (2012a, 2012b), examining the effect of glass ceiling beliefs on career advancement satisfaction and exploring how age moderates this relationship. Data will be gathered through surveys administered to middle-level female managers in public banks, with the findings analyzed to deepen our understanding of how these variables affect career advancement satisfaction.

### **1.7. Hypotheses**

Hypothesis 1 posits that there exists a significant relationship between a woman's glass ceiling beliefs and her career advancement satisfaction, moderated by age.

Sub-hypotheses:

H1a proposes a significant relationship between denial and a woman's career advancement satisfaction, moderated by age.

H1b suggests a significant relationship between resilience and a woman's career advancement satisfaction, moderated by age.

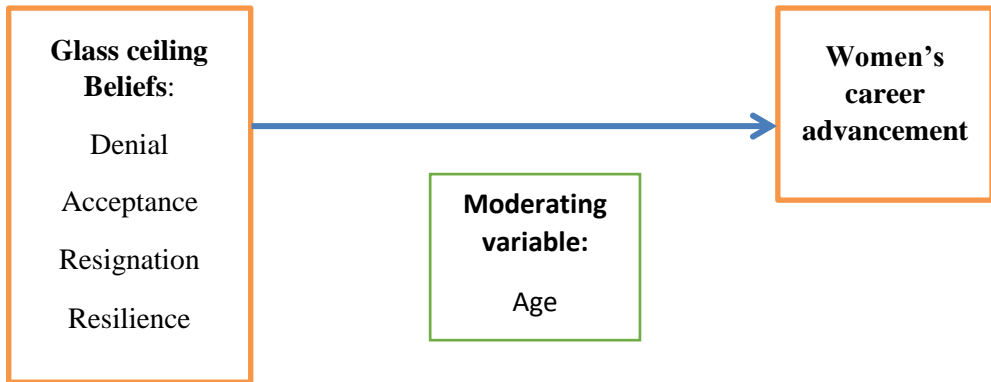
H1c proposes a significant relationship between acceptance and a woman's career advancement satisfaction, moderated by age.

H1d suggests a significant relationship between resignation and a woman's career advancement satisfaction, moderated by age.

## 1.8. Proposed Research Framework

**Independent variable**

**Dependent Variable**



## 1.9. Research Methodology

In this research, scientific methodologies were utilized for the collection, analysis, and presentation of data. Online surveys were selected as the primary method of data collection due to their accessibility, anonymity, and effectiveness in soliciting diverse responses (Kaplowitz et al., 2004; Reips, 2000). Various analytical techniques, including multiple regression analysis, factor analysis, Cronbach's alpha coefficient, and structural equation modeling (SEM) using AMOS software, were applied for data interpretation (Hair et al., 2014; Tabachnick & Fidell, 2014; Kline, 2015).

To ensure the quality of the data, measures of validity and reliability were implemented. Content validity was assessed to confirm that the survey instrument comprehensively covered all relevant aspects of the constructs under investigation, while internal consistency reliability was examined to assess the coherence of items within scales (Polit & Beck, 2006; Bolarinwa, 2015). These measures were employed to uphold the accuracy and credibility of the study's outcomes.

### **1.9.1. Research Design**

This study employs a quantitative research methodology, focusing on numerical data analysis to investigate the correlation between glass ceiling beliefs and career advancement satisfaction. Employing a correlational research design, the study explores how age moderates the relationship between acceptance, denial, resilience, and resignation and the satisfaction levels of women occupying middle-level management roles within Egyptian governmental banks. Data collection is facilitated through online surveys utilizing established assessment tools such as the Career Pathways Scale (CPS) for measuring glass ceiling beliefs and the Career Satisfaction Scale (CSS) for assessing career advancement satisfaction (Smith et al., 2012; Greenhaus et al., 1990). The analysis of collected data involves conducting multiple regression analysis using SPSS statistical software (Pallant, 2016).

### **1.9.2. Population, Sampling, and Sampling Procedures**

In this study, data collection involved administering a questionnaire to assess the influence of women's perceptions of the glass ceiling on their satisfaction with career advancement moderated by age. The researcher personally distributed the questionnaires at various Egyptian public banks, including Misr Bank, Banque Du Caire, and National Bank of Egypt.

The determination of the minimum sample size followed established guidelines, similar to previous research conducted by Smith, Caputi et al. (2012). Various rules proposed by Field (2009) and Green (1991) were considered to estimate the minimum sample size required for regression analysis, taking into account statistical analysis needs and the size of the target population. Due to challenges in defining a probability sample, purposive sampling was selected.

The calculated minimum sample size, based on recommended guidelines and power analysis, was determined to be 255 participants. This ensured statistical robustness and consistency with previous research methodologies, as highlighted by VanVoorhis and Morgan (2007) and Smith, Caputi et al. (2012).

### **1.9.3. Data Collection**

In this research, data will be gathered using a questionnaire designed to evaluate how women perceive the glass ceiling and

its impact on their satisfaction with career advancement. The distribution of the questionnaires will be personally conducted by the researcher at different Egyptian public banks, including Misr Bank, Banque Du Caire, and National Bank of Egypt.

The non-probability sampling method employed in this study involved reaching out to individuals within the researcher's professional network on LinkedIn and leveraging personal connections within Egyptian banks.

To measure glass ceiling beliefs, the Career Pathway Survey (CPS) developed by Smith, Crittenden et al. (2012) was utilized, as it is specifically tailored for this purpose. The CPS comprises four dimensions—denial, resilience, acceptance, and resignation—and has exhibited strong reliability in prior studies, with each component achieving a Cronbach's alpha of 0.70 or higher (Smith, Caputi et al., 2012).

For the assessment of career satisfaction factors, the Career Satisfaction Measure, utilized in previous research (Greenhaus, Parasuraman, & Wormley, 1990; Hofmans, Dries, & Pepermans, 2008; Joo & Park, 2010; Smith, Caputi et al., 2012), was employed. This instrument has been widely employed, with Hofmans et al. (2008) reporting its inclusion in 240 studies. Across various studies, Cronbach's alpha values for the instrument have ranged from 0.74 to 0.91, indicating high

reliability (Hofmans et al., 2008; Joo & Park, 2010; Smith, Caputi et al., 2012).

#### **1.9.4. Data Analysis Plan**

The study utilized various statistical analyses, including Structural Equation Modeling (SEM) with AMOS, correlation analysis, multiple regression, reliability and validity assessments, factor analysis, and cross-tabulation with chi-square tests. These methods, drawn from sources such as Hair et al. (2014), Tabachnick and Fidell (2014), and Kline (2015), aimed to investigate the relationship between glass ceiling beliefs and career satisfaction comprehensively. Additionally, simple and hierarchical linear regressions, as suggested by VanVoorhis and Morgan (2007) and Smith, Caputi et al. (2012), were employed to quantify relationships while controlling for demographic variables. Overall, the study's statistical analyses ensured a robust examination of the research hypotheses while maintaining methodological rigor, as outlined by the literature.

#### **1.9.5. Statistical Analysis Techniques**

- Indicators are created using a statistical method called building indicators, which involves consolidating a set of related questions or factors into a single indicator.
- Factor analysis is utilized to examine the interconnections among variables, aiming to identify if these variables can



be grouped into a smaller set of underlying factors. This serves as a way to evaluate the validity of the mean scale.

- Alpha-Cronbach analysis is employed to determine the reliability and validity of the scale. To assess the stability of the questionnaire and the consistency of the measures, Cronbach's Alpha test is used to gauge the reliability of the variables.
- Correlation analysis is conducted to understand the direction and strength of the relationship between two variables. In this study, the Pearson correlation coefficient is utilized to assess the correlation between two ordinal variables, examining how effectively their relationship can be described using a monotonic function.
- Multiple regression analysis is employed to explore the association between glass ceiling beliefs and career advancement satisfaction. The aim of regression analysis is to identify all independent variables deemed to have a significant impact on the dependent variable for inclusion in the model.

## 1.10. Research Results

### 1.10.1. Descriptive Statistics

**Table (1) The Mean and Standard Deviation for Research Variables**

	Minimum	Maximum	Mean	Std. Deviation
Denial	2.1	6.6	4.8	0.6
Resignation	1.5	7.0	3.3	0.9
Resilience	2.5	7.0	6.1	0.8
Acceptance	2.3	6.7	4.6	0.8
Career advancement satisfaction	1.0	7.0	2.934	1.7556

The descriptive statistics table offers an overview of the score distribution across each dimension and the aggregate measure of career advancement satisfaction. The range, depicted by the minimum and maximum values, delineates the span of responses observed, indicating the diversity within each dimension. Mean values denote the average score per dimension, where higher scores signify elevated levels of denial, resignation, resilience, acceptance, and career advancement satisfaction. Standard deviation values signify the dispersion of scores around the mean, indicating the extent of variability within each dimension. Overall, the table suggests that participants tend to report moderate to high levels of resilience and acceptance, while displaying lower levels of denial and resignation. The broad range of scores for career advancement satisfaction underscores

significant variability in participants' perceptions of their career advancement satisfaction.

### 1.10.2. Cronbach's Alpha

Cronbach's Alpha, as an index of internal consistency, serves to evaluate the reliability of a scale by quantifying the extent to which items within the scale share variance, thereby indicating the consistency of the underlying construct. Additionally, it offers an average inter-item correlation, serving as a measure of inherent validity. In the present study, Cronbach's Alpha values ranged from 0.664 to 0.928, indicating robust reliability across the scale's items. Moreover, all inter-item correlations surpassed 0.5, providing further support for the questionnaire's intrinsic validity.

**Table (2) Reliability of questionnaire in each category by using Cronbach's Alpha coefficient**

	Cronbach's Alpha	Average item correlation
Denial	0.715	0.527
Acceptance	0.883	0.541
Resignation	0.664	0.859
Resilience	0.784	0.548
<b>Women's career advancement</b>	0.928	0.872

The survey is very reliable, meaning it gives consistent results. Both Cronbach's alpha and the average inter-item correlation scores were higher than 0.5 for all questions. The reliability scores for different aspects of the survey ranged from 0.664 to 0.928, showing strong consistency. The parts of the survey about career advancement satisfaction and acceptance had the highest reliability scores, at 0.928 and 0.883 respectively, while the part about resignation had the lowest, at 0.664. Despite some differences, all reliability scores were higher than the accepted standard of 0.5, showing that the survey questions were good enough for the study.

### 1.10.3. Correlation Analysis

A Pearson correlation matrix was utilized to evaluate the significant relationships between glass ceiling beliefs and career advancement satisfaction. Following this, multiple regression analysis was performed to determine which independent variables significantly influenced the dependent variable within the model.

**Table (3) Cronbach's alpha measure and average inter-item correlation**

Correlations					
		Denial	Resignation	Resilience	Acceptance
Career advancement satisfaction	Pearson Correlation	-.103	.350**	-.213**	.324**
	Sig. (2-tailed)	.107	.000	.001	.000
** Correlation is significant at the 0.01 level (2-tailed).					

Career advancement satisfaction shows a significant moderate positive correlation with resignation ( $r = 0.350$ ,  $p < 0.05$ ) and acceptance ( $r = 0.324$ ,  $p < 0.05$ ). Conversely, there is no significant correlation between career advancement satisfaction and denial ( $r = 0.107$ ,  $p > 0.05$ ), resulting in the exclusion of denial from the regression model. Additionally, a weak negative correlation is identified between career advancement satisfaction and resilience ( $r = -0.213$ ,  $p < 0.05$ ).

#### **1.10.4. Regression Model**

Age is treated as dummy variable with two categories, as outlined in the descriptive statistics, where these categories take on values of 0 and 1. Additionally, interaction terms are included to test the moderating effect of age on the relationship between glass ceiling beliefs and women's career advancement satisfaction. It is evident that age moderates the relationship between resilience and satisfaction, as the p-value for the interaction term (resilience\*age) is less than 5%. The coefficient for this interaction term is -0.185, indicating that age strengthens the negative relationship between resilience and satisfaction

**Table (4) Regression Model**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.350	.716		-3.284	.001
Resignation	.653	.108	.327	6.063	.000
Acceptance	.743	.126	.319	5.896	.000
Resilience	-0.404	0.141	-0.175	-2.867	0.005
Resilience* age	-.185	.036	-.313	-5.076	.000
Resignation*age	.004 <sup>e</sup>	.024	.981	.002	.106
Acceptance* age	.188 <sup>e</sup>	.765	.445	.049	.046
Age range	-.011 <sup>e</sup>	-.036	.971	-.002	.031

### Depending on all the above tables we will

Accept that age moderates the relationship between resilience (independent variable) and her career advancement satisfaction (dependent variable).

Reject that age moderates the relationship between resignation (independent variable) and her career advancement satisfaction (dependent variable).

Reject that age moderates the relationship between acceptance (independent variable) and her career advancement satisfaction (dependent variable).

### **1.11. Conclusion**

This study uniquely explores the moderating effect of age on glass ceiling beliefs and career advancement satisfaction within Egyptian public banks, also examining how age moderates this relationship. Utilizing the Career Pathway Survey developed by Smith et al. (2012), the research contrasts previous findings with its own. While Smith et al. identified positive and negative relationships between career satisfaction and denial and resignation, respectively, the present study found positive relationships with acceptance and resignation, and a negative relationship with resilience. Denial showed no significant relationship with career advancement satisfaction. Additionally, age had a moderating effect on the relationship between resilience and career advancement satisfaction.

Addressing gaps in the literature on glass ceiling beliefs in Egypt, this study focuses on the disparity between female and male managers in governmental commercial banks like Misr Bank, Banque Du Caire, and National Bank of Egypt. It builds on the work of Ghada Barsoum (2017), who previously examined these beliefs in Alexandria's public and private sectors.

The research also incorporates secondary data from Capmas to compare female and male representation in middle and top management positions, offering insights into the gender gap within organizational hierarchies. Emphasizing the

importance of career advancement satisfaction for women, the study highlights its impact on employee engagement and organizational effectiveness. The findings aim to provide valuable insights for governments, organizations, and managers to address and reduce the gender gap in the workplace.

### **1.12. Recommendations**

Future research should adopt longitudinal surveys to address the limitations of the cross-sectional design used in this study. This method, recommended by Smith et al. (2012), involves collecting data at multiple time points to examine how women's beliefs about the glass ceiling evolve over time and under different conditions.

It is also suggested that future studies include various departments within banks, such as finance, sales, operations, and marketing. This approach would help determine if glass ceiling beliefs and career advancement satisfaction differ across fields. Moreover, incorporating data from both men and women using the Career Pathway Survey (CPS) would offer a more comprehensive understanding of men's perceptions of the glass ceiling, facilitating a more effective approach to addressing this issue across industries.



To generalize the findings beyond the banking sector, future research should investigate multiple industries to gather broader data on women's glass ceiling perceptions. This broader approach could aid in developing comprehensive solutions. Additionally, examining the impact of glass ceiling beliefs on job satisfaction and the intention to quit would provide organizations with valuable insights for designing talent retention strategies and addressing gender disparities in the workplace.

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