Factors affecting gender equality in public organizations in Egypt

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Abstract

Research purpose This paper aims to examine the impact of institutional design, glass ceiling syndromes, traditional stereotypes on gender equality in public organizations in Egypt, and finally the effect of age as a moderating factor of the relation between the dependent and independent variables.

Research methodology Both qualitative and quantitative research approaches were utilized, employing self-administered questionnaires and in-depth interviews to test the research hypotheses.

Research findings The findings indicate that institutional design factors significantly affect gender equality, while traditional stereotypes also have a significant impact. However, the "Glass Ceiling Syndrome" was found to have no significant effect. Moreover, the study reveals that women's age plays a positive moderating role in the relationship between institutional design, glass ceiling syndromes, traditional stereotypes, and gender equality.

Originality/value The originality and value of this study lie in its examination of age as a moderator in the relationship between dependent and independent variables, specifically institutional design, glass ceiling syndromes, traditional stereotypes, and gender equality. The inclusion of age as a moderating factor led to interesting findings, demonstrating its positive influence in shaping gender equality outcomes in public organizations.

Keywords Institutional design, Glass ceiling syndromes, Traditional stereotypes, Gender equality, Age as a moderating factor

Introduction

Due to their cultural, social, political, and economical circumstances, many modern cultures still hold women in a subordinate position. Men were formerly favored over women, and now women's roles have diminished. In the 1980s and 1990s, women's empowerment began. Women empowerment transforms power dynamics in favor of women's rights and equality with men [11, 40]. Today's cultures are more conscious of women's roles and have launched initiatives to abolish gender inequality. The researchers will explore the hurdles that prevent Egyptian women from reaching senior positions in government, using demography as a moderator.

To provide a comprehensive comprehension of the concept of "equality" within the scope of our research, it is necessary to examine its definition and significance. In terms of gender, equality refers to the equitable and just treatment of individuals, regardless of their gender identity or expression. It involves eradicating discriminatory practices, policies, and attitudes that perpetuate gender-based disparities [56]. In the context of Egyptian women working in public organizations, equality is of paramount importance. Due to cultural, social, and institutional factors, these women confront unique obstacles and challenges. Consequently, it is essential to investigate how Egyptian women understand, perceive, and experience gender equality in the workplace. By delving deeper into this topic, we can disentangle the complexities and nuances surrounding gender equality, thereby shedding

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light on the specific challenges women face in public organizations in Egypt [3, 36, 38, 43].

Studies highlighted the significance of women's participation in Egypt's economy. According to the Global Gender Gap Report [22], Egypt ranked 129th out of 156 countries. Around 20% of women are participating in the economy related activities, compared to 65% of men. (World Bank, 2020). However, this ratio alone does not fully capture the extensive contributions of women in shaping Egypt's economic landscape. Research studies have revealed the substantial role played by women entrepreneurs, innovators, and leaders across various sectors of the Egyptian economy. These studies also demonstrated that women-led businesses contribute to job creation, enhance productivity, and foster innovation. Moreover, women's economic empowerment has been shown to have a positive impact on household income, poverty reduction, and overall societal well-being. Having said that, it is important to acknowledge the challenges and barriers that those strong women face in fully participating in Egypt's economy. Gender-based discrimination, limited access to resources, and prevailing cultural norms are among the factors that would generally hinder women's economic advancement in Egypt. The Egyptian Government is currently exerting efforts to overcome these challenges by implementing gender-responsive policies, expanding access to finance and training opportunities, and creating an enabling environment that supports women's economic empowerment [2, 19, 20, 24–26, 59]; World Bank, 2020.

By delving into the hurdles faced by Egyptian women in reaching senior positions in government, this approach aligns with the growing recognition that addressing specific challenges faced by women in attaining leadership roles is essential for achieving broader gender equality objectives [47]. Research has shown that exploring the obstacles encountered by women in advancing to senior positions within government structures is pivotal for promoting gender equality. By understanding these hurdles, policymakers and organizations can develop targeted interventions and policies that address the specific needs and challenges faced by women, leading to more inclusive and equitable public organizations [44].

This research study ventures to investigate the above-mentioned challenges and obstacles that could possibly hinder gender equality in Egypt. The qualitative and quantitative nature of this study will help to examine the effect of institutional design, glass ceiling syndromes and traditional stereotypes as independent variables; on gender equality in public organizations as a dependent variable. It is hypothesized the variable of age could moderate the relationship between the independent and dependent variables.

Several relevant theories and research studies served as a foundation for our comprehension of the factors influencing gender equality in public organizations in Egypt as we developed the conceptual framework for our empirical research. Our study's theoretical foundation is based on the following theories:

Institutional theory that explains how formal and informal rules, norms, and practices influence organizational behavior and outcomes [15]. We examined the effect of institutional design on gender equality in public organizations using this theory. Institutional design incorporates organizational structures, policies, and practices that either promote or inhibit gender equality.

Another theory named the glass ceiling theory emphasize the argument that women confront invisible barriers that prevent their advancement to top leadership positions within organizations [33, 63]. This theory was utilized to investigate the effect of glass ceiling syndromes, such as discriminatory practices and biased perceptions, on gender equality in Egyptian public organizations.

The third theory which is called the Social Role Theory is another perspective that proposes the notion of societal expectations and stereotypes impact on the behavior and opportunities of individuals [17]. This study will employ this theory to investigate how traditional stereotypes, particularly those pertaining to gender roles, impact on gender equality in Egyptian public organizations. The existence of the age factor as a moderator is stemming from previous studies appearing in the literature [14, 16, 45].

This study is divided into four parts. The first part includes the introduction and literature review; the second part is tackling the qualitative study and its results while the third part is presenting the quantitative study and its results. The final part of the study is discussing the research conclusion and recommendations.

Equality concept

According to Hernández-Truyol [30], Boulos and La Barbera [8], equality refers to nondiscrimination and sameness of opportunity and support for each individual as needed. Non-discrimination ensures that no one is denied their rights because of factors, such as race, color, sex, language, religion, political or other opinion, national or social origin, property or birth. Inequality or lack of sameness would trigger the obligation of affirmative response and ongoing positive rights. The state has the responsibility to implement equality among citizens and correct and remediate its actions that have created inequalities. Equality is about having the same resources, as for the word equity implies what is "just" or "fair", it's about social justice and about not only having the same resources, but also having the same circumstances and

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social, economic conditions. The use of the word equity has increased due to the general concern about social justice and the desire for fairness for historically oppressed groups. Advanced by scholars of women in development (WID) in the 1970s and early 1980s, equity meant equal opportunity for equal contribution between men and women.

Gender equality by the Egyptian constitution

Gender equality first appears in the 1956 constitution: "All Egyptians are equal under the law in public rights and duties, without discrimination due to sex, origin, language, religion, or belief" (Article 31). The 1956 constitution also introduced in (Article 19): "the state facilitates for women the agreement between her work in society and her duties to the family". The 2014 constitution, in (Article 11) appointed women to high political office, including the judiciary, as well as calling for equal representation of women in parliament. The 2014 constitution called for "social justice" (in Article 8) and "social solidarity" that entail a life of dignity for all citizens [9, 37].

Women's equality in the public organizations in Egypt

According to Merry [41], Mntambo et al. [42], Perianes Bermúdez [46], Awoa et al. [4] cultural, societal, and religious norms, as well as governmental failures to provide adequate protections made women a subject to violence, discrimination and lack of equal access to basic systems in many countries all over the world, especially in the developing countries and Egypt is no exception to this fact. Regarding the female and male labor force participation rate (% of each gender's population between ages 15–64) in Egypt (1990–2017), in 1990, 23.2% of the Egyptian women between ages 15 to 64 were part of the labor force. In 1994, the female labor force participation rate increased marginally to 24.4. In 2017, 24.1% of Egypt's women between ages 15 to 64 participated in the labor force. These minimal percentages of women participation in the labor force in Egypt is due to socially assigned gender roles being institutionally enforced. In other cases, beside institutional reasons, societal perceptions and expectations of women and pressure from family and spouses, are also largely responsible for these modest percentages of women participation in the labor force in Egypt. This prevents women from having control over their own lives from the accessibility to sufficient necessities and care, and from having an increased voice and presence in economic matters. All previous mentioned notions cause women inequality with the opposite gender. As for the parliament seats, Egypt has shown a general increase in the number of women in parliament. From the period 1997 till 2009, seats held by women were below 3%. In 2010, the percentage jumped to 12.7%, but dropped down to 2% for the year 2011 and 2012. In 2016 and 2017 less than 15% of seats were held by women [57].

Institutional design factors and gender equality

Institutions articulate required, prohibited or permitted actions within the organizations; as such institutions constitute power settlements, which are inevitably contested [7, 28]. They also express the sanctions authorized if rules are not followed. It is known that rules shape workforce behavior as they constrain some actors and empower others, with respect to the roles they may play, and the types of actions they may take type of rewards they may expect [48].

Assigning institutional rules alone, does not really justify and explain gender inequality within the organizations, as institutional effects are generated by 'real human individuals' (females or males) who are occupying different positions and hold different perspectives on the gender power balance and possibilities for change [13, 24, 25]. The core question is: "Does institutional capacity affect policies no matter who is governing?" Hence, we need to put into consideration the extent to which traditional gender norms are embodied in informal rules and institutional legacies. As such, we need to study relationship between specific design of state institutions and pro-women policy outcomes. Furthermore, we would like to refer to an important aspect of the issue, which is the 'gendered effects' as these effects interact with external factors not related to the institutional rules and regulations. Institutional interconnections are a main source of gendered effects. Studying these interactions is crucial to understanding how politics is gendered [64].

Examples of these factors, where and when meetings are held maybe a disadvantage to women with caring responsibilities. Also, it may be hard for women who are fearful of traveling at night. Moreover, informal rules about the suitable age for certain jobs, may be a strong gendered effect as women are more likely than men to have taken career breaks and may be older than their male counterparts when competing for the same job. As well as those women who wish to engage in traditional leadership roles but are framed unsuitable because of embedded assumptions about how women should behave. [21, 52].

From the previous discussion we can hypothesize the first hypothesis:

H1 Institutional design factors significantly affect gender equality in public organizations.

The glass ceiling syndrome

The metaphor "glass ceiling" was for the first time used by Marilyn Loden in the 1970s. This term was used in

the beginning in the economics sector but with advancements it is now being widely used in almost every sector of career. 'Glass' refers to the unforeseen barriers and hurdles and 'ceiling' refers on the other hand to the distant rank advancement highlighting the discrimination in gender preferences [10].

According to Julie I Bockarie [35] "Glass Ceiling Syndrome" affects mainly women, but also minority groups as well. It is described as an invisible barrier that prevents women and minorities from reaching decision-making positions or attaining opportunities within organizations. This syndrome shows up in our personal and social lives as well, for example, girls' education is not given priority in certain parts of the world and even in the western societies where women receive education, gender bias is still evident.

Zaazou and Halim [67], Babic and Hansez [5], Elacqua et al. [18] explained why women managers rarely reach the highest levels of their organization. As stated, sometimes interpersonal relationships influence the way women and their male counterparts are treated within the organization. For example, women employees whose supervisors act as their mentors perceive less differential treatment among employees in their company.

In addition, the existence of an informal social network of senior people within the firm facilitate the exchange of valuable information related to new positions, managerial decisions, and ongoing projects [49]. Limited accessibility to such a network would negatively affect=the chances of promotion and therefore, lead to a perception of a glass ceiling. Finally, the friendly relationships with the company's decision-makers are playing an important role in minimizing the glass ceiling syndrome effect for women employees [5].

Therefore, we can develop the second hypothesis:

H2 The "Glass Ceiling Syndrome" significantly affect gender equality in public organizations.

Gender stereotypes and gender equality

Gender stereotypes are consensus and generalizations about what men and women are like. It is about the distribution of men and women social roles at home and at work as well. Stereotypes allow people to categorize and simplify what they observe and make predictions and assumptions about others. Stereotypes regarding gender are very influential because gender is an aspect of a person that is noticed and cannot be forgotten. [29].

According to Stewart et al. [55] gender stereotypes are generalized assumptions regarding common traits such as ambition, power and competitiveness as inherent in men, and communal traits such as nurturing, empathy and concern for others as characteristics of women. Gender-based stereotypes are developed by social norms related to masculinity and femininity (e.g. physical attributes, temperament, occupation/role suitability, etc.), of course, these norms are subject to the influence of culture and time.

Tabassum and Nayak [58] stated that stereotyping serves many purposes reflecting a variety of cognitive and motivational processes. Mainly it is a way of allowing the perceiver to rely on previously stored knowledge in place of incoming information and justifying the status quo or in response to social identity.

Bian et al. [6] argued that the career of young men and women are shaped by societal stereotypes about gender. For example, the common stereotype that men are better than women at mathematics erodes women's performance in this realm weakens their interest in mathematics-intensive fields. However, popular beliefs about women's ability associate not only specific cognitive processes such as mathematics, but also the overall amount of cognitive ability. The belief of men superiority in cognitive abilities may explain the gender gaps in many prestigious occupations.

From the previous discussion we develop the third hypothesis:

H3 Traditional stereotypes significantly affect gender equality in public organizations.

Age and gender equality

Sharma and Kaur [51] presented in their study three main barriers working women are facing when trying to attain high managerial positions. These barriers are personal barriers, organizational barriers and societal barriers. The authors also discussed the moderating effect of marital status (single or married) on the relationship of glass ceiling for women (GCW) and work engagement. The findings of the study revealed that the organizational and societal barriers had a major impact of 39 percent on work engagement, and that marital status of the women managers acted as a moderator between the organizational and societal barriers of GCW and their work engagement level.

In comparison to men, women experienced 53% more discrimination in respect to age and gender. Nevertheless, gender may interact with occupation that influences employment-related decisions for specific occupations, for example, men are suitable for software engineers and women as nurses [66].

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Wilkinson and Male [65], Ross and Mirowsky [50] stated that older women compared to men may face more educational and employment challenges than do younger women. They also mentioned in their study that in general, older people feel less in control of their own lives than do younger persons, and older women may be considered disadvantaged than their male counterparts due to accumulative work, educational and economic past experiences.

According to Alon-Shenker and MacDermott [1], the intersection of age and gender is affecting female workers drastically due to the current limitations of anti-discrimination laws and regulations that reduce the negative impact of this intersection on older working women.

In a brief produced by the United Nations [62], age associated with gender is playing an important role in shaping the lives of older women. Both women and men experience ageism when they get older, but women experience aging and its impact differently. Nevertheless, there are other intersectional factors, such as race, ethnicity, gender identity, religion and social origin aggravate the risk of gender inequality and discrimination against older working women.

Manzi et al. [39] argued that age intersection with gender may play a critical role in shaping women's work life. The authors revealed that women in the workplace experience more age-based stereotype threat than men; they found out that age-based stereotype affects people

differently according to their gender. The author stated that older people experience different forms of discrimination based on gender, race, ethnicity, and disability. However, women's perceptions of age discrimination are higher among white women than among racial-ethnic minority populations. While most studies of age discrimination find few if any gender-based differences [27].

Finally, we can hypothesis the fourth and last hypothesis:

H4 Women's age moderates the relationship between institutional design, glass ceiling syndromes, traditional stereotypes, and gender equality in public organizations.

Research model
See Fig. 1.

Methods
The researchers conducted a qualitative and quantitative study. A mixed methodology approach, combining qualitative and quantitative methods, offers valuable insights and enhances the comprehensiveness of understanding in research [12, 31, 60]. By employing both qualitative and quantitative methods, researchers can gain a deeper understanding of the research topic from different perspectives, enriching the overall analysis and interpretation of findings, and brings several advantages: Firstly, it allows for triangulation "Triangulation is a key
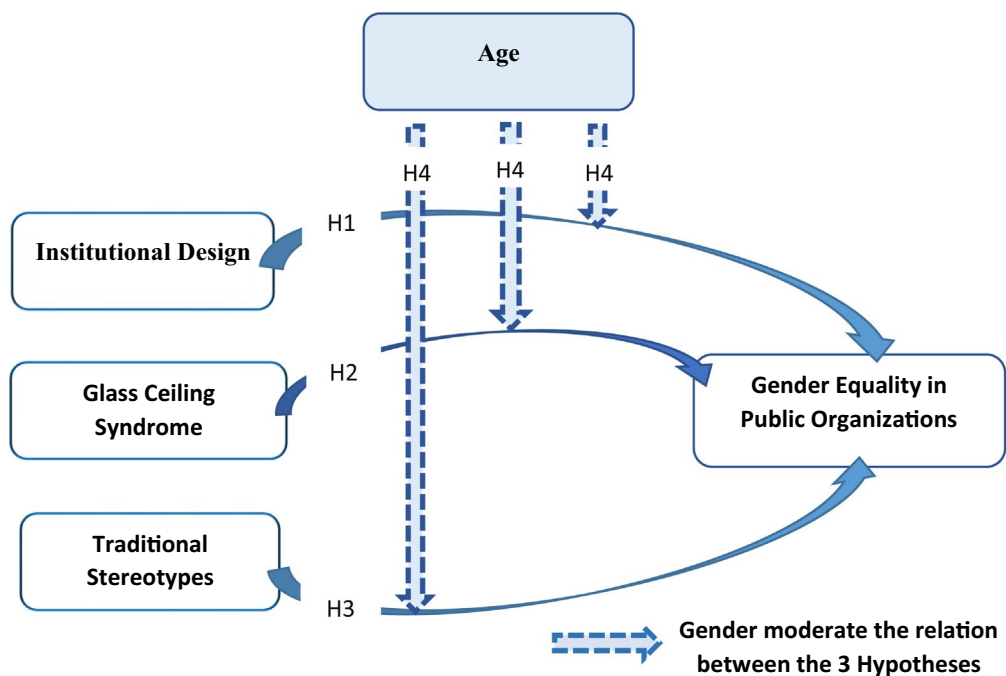

Fig. 1 Model of the research

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methodological strategy that enhances the validity and reliability of research findings by using multiple sources, methods, or perspectives to converge and corroborate evidence [34]", where findings from different methods are compared and validated, enhancing the reliability and credibility of the research [32]. Secondly, it enables a comprehensive understanding of the research topic by capturing both the depth of individual experiences and the broader patterns or trends within a larger population [61]. This comprehensive understanding is especially relevant in complex research areas where multiple factors and contexts interact. By employing a mixed methodology approach, researchers can leverage the strengths of both qualitative and quantitative methods, leading to a more robust and holistic understanding of the research topic [32]. The qualitative data provide depth and richness, while the quantitative data provide breadth and statistical significance. Quantitative methods, such as surveys or statistical analyses, provide researchers with numerical data that can be analyzed to identify patterns, trends, and relationships [32, 61].

This integration between qualitative and quantitative approaches helps researchers gain a more nuanced understanding of the research phenomenon, its underlying mechanisms, and potential relationships between variables.

The qualitative study

The study is presented by the literature review, in addition to the exploratory study, where researchers conducted 20 in-depth interviews. The number of interviews conducted was determined by the principle of data saturation, where new information and insights reached a point of redundancy. This ensured that a thorough exploration of the research topic was achieved through a sufficient number of interviews. In our study, we followed the principle of saturation when determining the sample size for the qualitative interviews [23]. We conducted interviews with participants until we reached a point of saturation, where new interviews no longer yielded substantially new insights or perspectives related to our research objectives. This allowed us to capture a diverse range of experiences and perspectives from participants who were knowledgeable and had relevant insights into the topic of gender equality in public organizations in Egypt. Qualitative methods, such as in-depth interviews or focus groups, allow researchers to explore the experiences, perceptions, and subjective interpretations of participants [32, 61]. Through open-ended questions and detailed exploration, qualitative data provide rich and context-specific information that captures the nuances and complexities of the research phenomenon.

In summary, the consolidation of quantitative and qualitative results offers a holistic comprehension of the determinants that impact gender parity within governmental institutions. The user underscores the importance of institutional design, traditional stereotypes, and age as crucial determinants, while also indicating a lack of association between glass ceiling syndromes and gender parity. The aforementioned insights possess the potential to enlighten policymakers and organizations in their efforts to advance gender equality and establish all-encompassing settings.

Participants' demographics

The selection of the qualitative research participants is designed to ensure that researchers captured social differences and diversity within the selected sample.

Participants' number

The total number of participants are Twenty.

Participants' gender and occupations

The researchers targeted men and women from different age categories and social/educational classes, 18 participants were community leaders, non-governmental organization (NGO) members, activists, business owners, bankers, and 2 participants were high ranked public position holders.

Participants' age

Participants' age ranged between 30 and 58.

Results and discussion
Qualitative research findings
Findings of the participants' interview

To sum up participants' opinions and views toward women equality in public organizations, researchers are presenting followings the topics of the interview (in bold) and underneath the participants' answers.

When researchers addressed the participants with a question regarding the effect of traditional stereotyping on gender equality in public organizations, many of them answered saying that 'negative stereotypes' toward women are affecting their attainment of high ranked positions in the public sector. Cultural, socio-economic and political environment especially in developing countries is marginalizing women's role, as men in these countries have definitely better chances in holding higher governmental positions. They also mentioned that there is a dogmatic belief that women in general are docile, patient and tolerant of certain jobs like teachers, secretaries or clerical jobs.

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Then, researchers approached the respondents with a question regarding the "Glass Ceiling Syndrome" and its impact on gender equality in public organizations. The majority of respondents answered saying most women are not aware of the 'glass ceiling syndrome' effect or they do not care about having higher positions. Actually, in developing countries in general, women are not familiar with this expression.

Researchers then asked respondents about age as a moderator between stereotypes, glass ceiling syndrome and institutional design affect gender equality in public organizations, the majority stated that age is not affecting women attainment of leading positions in public organizations; whereas gender and education level are playing a main role in hindering women's attainment of leading positions in public organizations more than age factor. Few of them believe that age is affecting both genders in public organizations.

The researchers addressed two high ranked public position holders: The Undersecretary of Ministry of Public Business Sector and the Governor of Damietta Governorate with a question regarding gender equality and gender diversity in the public work environment. They argued that women are part of the society and there should be an equal distribution of power as gender equality is very crucial for democracy and a country's development.

They also stated that the Holding Group signed a protocol with the International Finance Corporation in October 2022, which main terms were analyzing the current condition of gender equality and gender diversity in the public work environment. According to the protocol, it has been agreed to develop a plan for upgrading and developing the work environment of the Egypt Insurance Holding Group emphasizing equality and justice among both genders.

Finally, they mentioned that the Financial Regulatory Authority' issued a law in August 2021 stating that women representation in any board of directors of the Financial Regulatory Authority subsidiaries, should not be less than 25% or at least there should be two-woman representatives in the board.

When researchers asked the participants about other demographic factors affecting women equality in the public organizations, many of them answered saying that one of the main reasons of depriving women from high positions in public organizations is that many women especially in Upper Egypt are prohibited by their families from education and from work outside their very limited domestic arena. Educated women and men are equally capable of performing the same jobs.

(The qualitative research questions are stated in Appendix 1, pp. 20 & 21).

Quantitative research findings

The researchers developed a questionnaire containing self-administered statements in the form of Likert scale. The questionnaires were distributed among 300 employees to pick up information on respondents' opinion about the effect of 'institutional design', the traditional stereotypes, the glass ceiling syndrome' and 'age' (as a moderating factor between all three above-mentioned variables) on gender equality in public organizations, gender equality and to obtain numerical data for statistical analysis. Our responds were 251, and 41 questionnaires were excluded for missing data and non-validity, to reach approximately 210 valid questionnaires that were returned with respondent rate of 70% which is statistically acceptable for data analysis. The sample size for the survey was determined using appropriate sample size calculation techniques to ensure adequate statistical power and representativeness of the target population [53].

Descriptive research

Participants' characteristics

Table 1 the sample characteristics demonstrates that the respondents had a wide range of backgrounds. There were 94 females and 117 males in the study group. The majority of respondents were undergraduate students at a university (47.1 percent). Between students (45.7 percent) and employees in the private sector, people who answered the survey had a wide range of occupations to choose from (30.5 percent).

Testing hypotheses

Testing hypothesis 1: Institutional design factors significantly affect gender equality in public organizations   When it comes to the statement, "The extent to which traditional gender norms are embodied in informal rules and institutional legacies affect gender equality." (4.25). As for the lowest man it addresses the statement saying "Institutional change is often gradual, as actors actively exploit the inherent ambiguities of institutions bias" (3.19). The descriptive results showed that indeed institutional design factors significantly affect gender equality in public organizations. Most participants agreed that institutional rules shape workforce behavior as they constrain some actors and empower others. They also agreed that institutions are substantively gendered through numerous mechanisms emerge from social norms that result in gender bias. The sample is homogeneous and representative because the standard deviation of all statements is less than 2 (Table 2).

Table 1 Participants' characteristics

	Frequency	Percent (%)
Gender		
Male	116	55.2
Female	94	44.8
Total	210	100.0
Age		
Less than 20 years old	28	13.3
20 to less than 30 years old	145	69.0
30 to less than 40 years old	22	10.5
40 to less than 50 years old	9	4.3
Above 50 years old	6	2.9
Total	210	100.0
Educational level		
Uneducated	6	2.9
High school student	15	7.1
University student	99	47.1
Bachelor's degree holder	82	39.0
Post graduate degree holder	8	3.8
Total	210	100.0
Marital status		
Single	134	63.8
Engaged	27	12.9
Married	38	18.1
Divorced	7	3.3
Widowed	4	1.9
Total	210	100.0
Occupation		
Unemployed	11	5.2
Student	96	45.7
Private sector employee	64	30.5
Public sector employee	7	3.3
Business owner	21	10.0
Professional as (Doctor, governor, lawyer, other…)	11	5.2
Total	210	100.0
Monthly income level		
Less than 2000 EGP	6	2.9
2000 EGP to less than 5000 EGP	15	7.1
5000 EGP to less than 8000 EGP	99	47.1
8000 EGP to less than 11,000 EGP	82	39.0
11,000 EGP and above	8	3.8
Total	210	100.0
Mean income: 7442.8 EGP		

Testing reliability for institutional design and women attainment of leadership positions in public affairs of the Egyptian government Statements 1–10 were found to be trustworthy and consistent by "0.867" in the Cronbach's Alpha reliability test, which suggests that our variables are consistent with the intended variables. (Institutional design and women attainment of leadership positions). Thus, we can conclude that the claims accurately describe our data (Table 3).

Chi-square test Kruskal–Wallis Test was valid as Table 4 reveals that there is a significant relationship between institutional design and women attainment of leadership positions in the government workforce. Depending on the significance of institutional design (0.000). The researchers came to the conclusion that H1 is accepted by utilizing the chi square approach.

It is clear from the table that there is a positive and strong association between institutional design and the number of Egyptian women in leadership positions. As Egyptians ladies have good communication and can compromise to solve problems, committed to their job and finally, they can cooperate easily with the external society. People attitude toward women in high positions of authority inside the government is seen as a liability. Correlation coefficients whose magnitude are between 0.3 and 0.5 indicate variables which have a moderate correlation.

The statistical results of this hypothesis revealed that the statements addressed to participants were trustworthy and reliable as Cronbach alpha was 0.867 and the mean of all statements was above 3 and standard deviation below 2, which indicates that data are clustered around the mean and the sample is homogeneous and representative. The p-value in Kruskal–Wallis Test as it was 0.000. The correlation test proved that there is a positive and strong association between institutional design and gender equality in public organizations. It read 0.342** (Table 5) It is clear from the table that there is a positive and strong association between institutional design and the number of Egyptian women in leadership positions. As such, Hypothesis 1 is accepted.

Testing Hypothesis 2: The "Glass Ceiling Syndrome" significantly affect gender equality in public organizations The highest mean addressed the statement saying: "Glass ceiling syndrome is described as an invisible barrier that prevents women and minorities from reaching decision-making positions" (4.12). The lowest mean addressed the following statement: "I believe, glass ceiling syndrome is arousing from gender inequality" (2.32). Most participants agreed with a high mean that despite legislation for equal opportunities for both genders and the increasing number of qualified women, they are still largely underrepresented in the decision-making process in all sectors. They less agreed that Glass ceiling syndrome shows up in our personal and social lives as well. The sample is homogeneous and representative because the standard deviation of all statements is less than 2 (Table 6).

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Table 2 The frequency, mean and standard deviation of hypothesis (1)

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)	Mean	S.D
Institutional rules shape workforce behavior as they constrain some actors and empower others	76 (36.2%)	77 (36.7%)	43 (20.5%)	11 (5.2%)	3 (1.4%)	4.01	.953
Individuals who are occupying institutional different positions hold different perspectives on gender equality	86 (41.0%)	84 (40.0%)	32 (15.2%)	7 (3.3%)	1 (.5%)	4.18	.843
Institutional interconnections are a main source of gender inequality	76 (36.2%)	69 (32.9%)	47 (22.4%)	14 (6.7%)	4 (1.9%)	3.95	1.013
The extent to which traditional gender norms are embodied in informal rules and institutional legacies affect gender equality	104 (49.5%)	64 (30.5%)	34 (16.2%)	6 (2.9%)	2 (1.0%)	4.25	.894
New institutions are often male-dominated and lack feminist voices	79 (37.6%)	57 (27.1%)	43 (20.5%)	23 (11.0%)	8 (3.8%)	3.84	1.158
Gender equality can be achieved through policies that can produce change, training and tools, and number of women staff and managers	78 (37.1%)	76 (36.2%)	37 (17.6%)	15 (7.1%)	4 (1.9%)	4.00	1.005
The negotiation processes through which new institutions are designed are often male-dominated and lack feminist voices	106 (50.5%)	53 (25.2%)	37 (17.6%)	12 (5.7%)	2 (1.0%)	4.19	.983
Institutions are substantively gendered through numerous mechanisms emerge from social norms that result in gender bias	74 (35.2%)	76 (36.2%)	48 (22.9%)	11 (5.2%)	1 (.5%)	4.00	.915
Institutional change is often gradual as actors actively exploit the inherent ambiguities of institutions bias	52 (24.8%)	45 (21.4%)	31 (14.8%)	55 (26.2%)	27 (12.9)	3.19	1.398
Significant increase in women's representation in institutions needs new rules for gender equality	53 (25.2%)	75 (35.7%)	47 (22.4%)	28 (13.3%)	7 (3.3%)	3.66	1.096

Table 3 Reliability test

Cronbach's alpha	No. of item
0.867	10

Table 4 Kruskal–Wallis Test

Institutional design and women attainment of leadership positions in public affairs of the Egyptian government		
p-Value	Institutional design	0.000

Table 5 Correlation

Institutional design and gender equality in public organizations	
Correlation coefficient	0.342**

**p < 0.05. The asterisks (*) next to the z-scores represent the level of statistical significance for each variable

Testing reliability of the relationship between glass ceiling syndrome and gender equality in public organizations.

Table 7 shows that Cronbach's Alpha is 0.712, which is larger than 0.6, it was determined that the statements are reliable and consistent.

Chi-square test   The Kruskal–Wallis test in Table 8 indicates that there is insignificant relationship between the glass ceiling syndromes and women's advancement in the government workforce. Using the chi square approach, researchers decided that H2 was rejected because of the insignificance level of *p*-Value 0.178.

It is clear from Table 9 that there is a negative association between Glass ceiling syndrome and gender equality in public organizations. A value of −1 means a perfect negative association of rank. As such, a value of (−0.568) proves a negative association between the two variables. People attitude toward gender equality in public organizations is negatively insignificant affected by the glass ceiling syndrome.

If we have a look at the statistical results, we will notice that the Kruskal–Wallis test is valid, as it indicates that there is no correlation between traditional stereotyping and gender equality in public organizations. The P-value is 0.178, which is considered a significant negative level. There is no impact between glass ceiling syndromes on gender equality in the Egyptian public organizations. Moreover, all 11 statements in the descriptive part addressed to participants; proved that

Table 6 the frequency, mean and standard deviation of hypothesis (2)

Statements	Strongly Agree(5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	S.D
Glass ceiling syndrome is described as an invisible barrier that prevents women and minorities from reaching decision-making positions	84 (40%)	86 (41%)	27 (12.9%)	8 (3.8%)	5 (2.4%)	4.12	.940
Glass ceiling syndrome shows up in our personal and social lives as well	18 (8.6%)	34 (16.2%)	41 (19.5%)	68 (32%)	49 (23%)	2.54	1.249
Glass ceiling syndromes also can induce faulty assessments of people	76 (36.2%)	59 (28.1%)	42 (20%)	22 (10.5%)	11 (5.2%)	3.80	1.190
I believe, glass ceiling syndrome is arousing from gender inequality	11 (5.2%)	24 (11.4%)	45 (21.4%)	72 (34.3%)	58 (27.6%)	2.32	1.149
Glass ceiling syndrome allows people to categorize and simplify what they observe and to make predictions about others	11 (5.2%)	24 (11.4%)	45 (21.4%)	72 (34.4%)	58 (27.6%)	2.90	1.180
Glass ceiling syndrome affects mainly women, but also minority groups as well	80 (38.1%)	74 (35.2%)	41 (19.5%)	15 (7.1%)	0	4.04	.930
The personal attitudes of an individual in promoting glass ceiling	44 (21%)	57 (27.1%)	40 (19%)	42 (20%)	27 (12.9%)	3.23	1.333
Job segregation is promoting glass ceiling syndrome in organizations	30 (14.3%)	40 (19%)	70 (33.3%)	47 (22.4%)	23 (11%)	3.03	1.196
Both the gender employees are progressing, but at a certain time women employees fail to get promoted to higher posts and their male counterparts attain the senior post on the basis of gender discrimination	52 (24.8%)	53 (25.2%)	65 (31%)	26 (12.4%)	14 (6.7%)	3.49	1.183
The friendly interpersonal relationships can hinder the glass ceiling syndrome in the organizations	29 (13.8%)	61 (29%)	64 (30.5%)	27 (12.9%)	29 (13.8%)	3.16	1.227
Despite legislation for equal opportunities for both genders and the increasing number of qualified women, they are still largely underrepresented in the decision-making process in all sectors	93 (44.3%)	66 (31.4%)	35 (16.7%)	12 (5.7%)	4 (1.9%)	4.10	1.002

Table 7 The reliability test

Cronbach's Alfa	N of items
0.712	11

Table 8 Kruskal–Wallis Test

The relationship between glass ceiling syndrome and gender equality in public organizations		
p-Value	Glass ceiling syndrome	0.178

Table 9 Correlation

Glass ceiling syndrome and gender equality in public organizations	
Correlation coefficient	− 0.568

not all statements have a mean above 3, but few statements had a mean below 3. The sample is homogeneous and representative because the standard deviation of all statements is less than 2. H2 is rejected.

Testing Hypothesis 3: Traditional stereotypes significantly affect gender equality in public organizations Participants agreed with the highest mean (4.12) that traditional gender stereotypes derive from the awkward division of men and women roles both in the home and at work. They agreed with the lowest mean among (3.27) that children learn about gender stereotypes from their immediate environment and the media, as such they learn how to behave in gender-appropriate ways (Table 10).

In general, participants believed that gender-based stereotypes are informed by social norms relating to ideals and practices of masculinity and femininity. The sample is homogeneous and representative because the standard deviation of all statements is less than 2.

Testing reliability for traditional stereotypes and gender equality in public organizations. Perception is compatible with assertions one through ten in Table 11, which indicates that the reliability test was reliable and consistent with Cronbach's Alpha by "0.931," according to the above table. Because of this, we may conclude that the statements accurately measure our variables.

Chi-square table It is clear from Table 12 that there is a positive and strong association between traditional stereotypes and gender equality in public organizations.

Table 10 The frequency, mean and standard deviation of hypothesis (3)

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)	Mean	S.D
The stereotypes associating only men with brilliance is a typical stereotype and hinders women advancements	71 (33.8%)	85 (40.5%)	40 (19.0%)	12 (5.7%)	2 (1.0%)	4.00	.920
If gender biasness is ignored, then true skills of women employees can be realized	68 (32.4%)	83 (39.5%)	48 (22.9%)	9 (4.3%)	2 (1.0%)	3.98	.902
Traditional gendered stereotypes see the certain traits such as ambition, power and competitiveness as inherent in men, and other traits such as nurturing, empathy and concern for others as characteristics of women	47 (22.4%)	91 (43.4%)	51 (24.3%)	19 (9.0%)	2 (1.0%)	3.77	.931
Gender-based stereotypes are informed by social norms relating to ideals and practices of masculinity and femininity	76 (36.2%)	59 (28.1%)	42 (20%)	22 (10.5%)	11 (5.2%)	3.80	1.190
In order to utilize the talents of individuals residing in a country, contribution of both genders on the basis of merit needs to be ensured	80 (38.1%)	73 (34.8%)	30 (14.3%)	24 (11.4%)	3 (1.4%)	3.97	1.055
The faulty assessments of gender stereotypes can negatively affect opportunities and work outcomes for women	80 (38.1%)	74 (35.2%)	41 (19.5%)	15 (7.1%)	0	4.04	.930
There is a paradox regarding the increase number of women workforce and their imprisonment in rigid gender stereotypes	70 (33.3%)	73 (34.8%)	52 (24.8%)	15 (7.1%)	0	3.94	.931
Gender stereotypes are enforced by both men and women	64 (30.5%)	66 (31.4%)	60 (28.6%)	17 (8.1%)	3 (1.4%)	3.81	1.007
Children learn about gender stereotypes from their immediate environment and the media, as such they learn how to behave in gender-appropriate ways	32 (15.2%)	45 (21.4%)	89 (42.4%)	36 (17.1%)	8 (3.8%)	3.27	1.039
I believe that traditional gender stereotypes derives from the awkward division of men and women roles both in the home and at work	94 (44.8%)	68 (32.4%)	34 (22.9%)	7 (6.7%)	7 (3.3%)	4.12	1.017

Table 11 The reliability test

Cronbach's alpha	Number of items
0.931	10

Table 12 Kruskal Wallis Test

Traditional stereotypes and gender equality in public organizations		
p-Value	Citizen's perception	0.000

Table 13 Correlation

Traditional stereotypes and gender equality in public organizations	
Correlation coefficient	0.751**

**$p < 0.05$. The asterisks (*) next to the z-scores represent the level of statistical significance for each variable

As shown in Table 12 by the Kruskal–Wallis test, using the chi square approach, researchers decided to accept H3 because of the significance level of 0.000.

It is clear from Table 13 that there is a positive association between traditional stereotypes and gender equality in public organizations. Correlation coefficients whose magnitude are between 0.6 and 0.79 indicate variables which can be considered strongly correlated. This means, there is a strong relationship between traditional stereotypes and gender equality in public organizations.

Regarding hypothesis three, if we do the same abovementioned steps, we have taken in comparing hypothesis two statistical and qualitative results, we'll come up with the following:

First, the descriptive results confirmed most of respondents agree to some degree that traditional stereotypes are playing a vital role regarding gender equality in the public sector. The mean of most statements is above 3.00; as well as the sample is homogeneous and representative because the standard deviation of all statements is less than 2.

Table 14 Hypotheses test results (Moderation hypotheses are excluded)

Structural paths	Standardized path coefficients	Hypothesis supported (Yes/no)
Hypothesis 1: Institutional design → gender equality in public organizations	0.547**	Yes
Hypothesis 2: Glass ceiling syndromes → gender equality in public organizations	0.271	No
Hypothesis 3: Traditional stereotypes → gender equality in public organizations	0.351**	Yes

**p < 0.05. The asterisks (*) next to the z-scores represent the level of statistical significance for each variable

Table 15 The moderating effect of age

	ID → GE	GCS → GE	TS → GE
Age	0.866	− 0.412	0.436
z-score	4.490**	− 2.231	1.754*

ID Institutional design; *GCS* Glass ceiling syndromes; *TS* Traditional Stereotypes; *GE* Gender Equality

**p < 0.01; *p < 0.05. The asterisks (*) next to the z-scores represent the level of statistical significance for each variable

Furthermore, all statements addressed to the participants were reliable as Cronbach's Alpha measured 0.931, which means the statements accurately measure what it supposed to measure (traditional stereotypes is significantly affecting gender equality in the public sector. Finally, according to the correlation test, it measured 0.751 and this means there is a substantial correlation between traditional stereotypes and gender equality in public organizations. Hypothesis 3 is accepted.

Testing Hypothesis 4: Women' age is playing a moderating role in gender equality in public organization See Tables 14 and 15.

Structural model analysis
SEM was used to test the research hypotheses. In terms of its sizing, there were no problems with the model. The chi-square to degrees of freedom ratio was too low at 2.1, falling below the 3 cut off point. GFI is 0.92, CFI is 0.92, NFI is 0.92, and IFI is 0.93, with an RMSEA of 0.077." (Hair and colleagues 1998). Hypotheses 1 and 3 were found to be significant, according to the results (Tables 5 and 13).

Societal interactions and citizens' perceptions all had a positive impact on gender equality in public organizations. Whereas hypothesis 2 found to be insignificant according to the results of (Table 9) as glass ceiling syndromes has a negative impact on gender equality in public organizations. It is clear that age influences gender equality in public organizations (hypothesis 4) significantly with the highest degree for institutional design (4.490), and significantly for traditional stereotypes (1.754), but with insignificant relation for glass ceiling syndromes (2.231) then this supports hypothesis 4. Based on the results, authors discovered significant positive relation for institutional design and traditional stereotypes and negative relation for glass ceiling syndromes and all affected by age (Table 15).

According to the Structural Model Analysis (SEM), societal interactions and citizens' perception (H1 & H3) all had a positive impact on a woman's ability to rise to leadership positions. H2 was rejected due to the statistical results which indicated that glass ceiling syndromes have a negative impact on a gender equality in public organizations. (Table 9).

Looking at the SEM (Table 15) z-score for the variables: 'Institutional design (ID)'; Traditional Stereotypes (TS)'; and Glass Ceiling (GC)' that age influences gender equality in public organizations (hypothesis 4) significantly with the highest degree for institutional design (z-score: 4.490), and significantly for traditional stereotypes (1.754), but with insignificant relation for glass ceiling syndromes (2.231). Based upon the results researchers discovered significant positive relationship between institutional design and traditional stereotypes and a negative relationship between glass ceiling syndromes and all are affected by age (gender, age and education groups) this supports hypothesis 4.

Summary of hypotheses testing
See Table 16.

The specific and standardize findings of the study
The qualitative research findings can be related to the quantitative research findings to provide a comprehensive understanding of the research topic. The specific findings related to institutional design and gender equality in public organizations indicate that institutional design factors significantly affect gender equality. Regarding hypothesis one, the research conducted found that institutional rules shape workforce behavior as they constrain some actors and empower others. It

Table 16 Summary of hypotheses testing

Hypotheses	Results
H1: Institutional design factors significantly affect gender equality in public organizations	*p*-Value: Institutional design (0.000) There is significant relationship between institutional design and gender equality in the Egyptian public organizations H1 is Accepted
H2: The "Glass Ceiling Syndrome" significantly affect gender equality in public organizations	*p*-Value: Glass ceiling syndromes (0.178) There is no impact between glass ceiling syndromes on gender equality in the Egyptian public organizations H2 is rejected
H3: Traditional stereotypes significantly affect gender equality in public organizations	*p*-Value: Traditional stereotypes (0.000) Citizen's perception positively affect gender equality in public in the Egyptian public organizations H3 is accepted
H4: Women age is playing a moderating role in gender equality in public organization	*p*-Value: (Institutional design, Glass ceiling syndromes, and Citizens' perception) (0.001, 0.064, 0.023) sequentially Age is playing a moderating role between (Institutional design, Glass ceiling syndromes, and Citizens' perception) and gender equality in public Egyptian public organizations H4 is accepted as age is playing a positive moderating role in the relationship between Institutional design and gender equality in public organizations; age is playing a positive moderating role in the relationship between Glass Ceiling Syndrome and gender equality in public organizations; and finally, age is playing a positive moderating role in the relationship between Traditional Stereotypes and gender equality in public organizations

was also revealed that institutions are substantively gendered through numerous mechanisms that emerge from social norms, resulting in gender bias. The study further tested the reliability of institutional design and women's attainment of leadership positions in public affairs of the Egyptian government. The statements addressing participants were found to be trustworthy and consistent, with a Cronbach's Alpha reliability test score of 0.867. This suggests that the variables accurately describe the data. Additionally, a Chi-Square Test was conducted, which revealed a significant relationship between institutional design and women's attainment of leadership positions in the government workforce. The statistical results showed a positive and strong association between institutional design and the number of Egyptian women in leadership positions (gender equality).

Moreover, the *p*-value is 0.000 and the mean of all statements is above 3.6 & above 4, which proved a strong agreement among participants on all statements.

The correlation coefficient between institutional design and gender equality was 0.342, indicating a moderate correlation. Therefore, based on these specific findings, it can be concluded that institutional design plays a crucial role in shaping gender equality in public organizations. Hypothesis one is accepted.

The presence of this positive correlation suggests that institutional factors, such as established regulations, social norms, and operational procedures, exert influence on workforce conduct and results, including the attainment of gender equality. Moreover, the presence of women in positions of leadership can function as exemplars, motivating and encouraging other women to actively seek out leadership positions. This, in turn, fosters a positive feedback loop that promotes gender equality and empowerment.

As for the second hypothesis, the glass syndrome effect, it is described as an invisible barrier that prevents women and minorities from reaching decision-making positions or attaining opportunities within organizations. It is a metaphor for the invisible barrier that prevents some people from rising to senior positions. The literature assures this relationship not only at work, but also in women's social personal lives. *The statistical results didn't agree with the literature as the hypothesis is rejected as p-value is 0.178, which is bigger than 0.000 proving no relationship between the independent and dependent variables of the hypothesis. As well as the Correlation Coefficient is −0.568. A value of (−0.568) proves a negative association between the two variables. To explain that, we may say that glass ceiling syndrome is not the only factor affecting women equality in public organizations; other factors are affecting women's equality in public organizations such as education, awareness, traditions and values as well as institutional designs and negative stereotypes of women in Egypt.* Hypothesis two is rejected.

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The third hypothesis: *Traditional stereotypes significantly affect gender equality in public organizations.* This time, again the literature and the statistical results align and agree. Participants believed that gender-based stereotypes are informed by social norms relating to ideals and practices of masculinity and femininity. The mean of all statements is above 3.9 & above 4. Cronbach alpha result was 0.931, which suggests that the variables are consistent with the intended variables. *p*-value is 0.000, which proves a positive and strong association between traditional stereotypes and gender equality in public organization. Hypothesis three is accepted.

The fourth hypothesis: Age is playing a moderating role between (Institutional design, Glass ceiling syndromes, and Citizens' perception) and gender equality in public Egyptian public organizations. The literature stated that in comparison to men, women experienced 53% more discrimination in respect to age and gender [66]. The statistical results proved that *p*-value for (Institutional design, Glass ceiling syndromes, and Citizens' perception) is (0.001, 0.064, 0.023) respectively. Age is playing a moderating role between (Institutional design, Glass ceiling syndromes, and Citizens' perception) and gender equality in public Egyptian public organizations. H4 is accepted.

To conclude:

The findings reveal that traditional stereotypes significantly affect gender equality in public organizations. However, the glass syndrome effect hypothesis, which refers to the invisible barrier that prevents women and minorities from reaching decision-making positions, was rejected. The statistical results did not align with the literature on this hypothesis. Overall, the combination of qualitative and quantitative research methods provides a comprehensive understanding of the research topic and enhances the validity and reliability of the findings.

Conclusion

Organizational practices that promote equal employment opportunity and anti-discrimination policies are associated with greater workplace opportunities in general, as well as increased access to management. This is supported by many empirical findings. As such, the relationship between *the institutional design,* rules and regulations within the organization and women's equality in public organizations is a positive relationship. That's why statutory changes and rule of law are required to decrease gender inequality. Demanding electoral laws that promote alliances and create new opportunities for women to compete in parliamentary.

However, simply increasing women's representation in management may not be sufficient, as some findings suggest that the positive effects of managerial positions on inequality may be most significant at higher levels of management. Therefore, gender integration at lower management levels may not produce the ripple effects that come with integrating positions that possess real power and authority. Symbolic changes or changes limited to lower management levels are likely to be ineffective.

Regarding *Gender Stereotypes*, more evidence is needed to establish whether female managers may indirectly influence inequality within organizations. These indirect effects operate through processes rooted in social cognition. For instance, the visibility of women in leadership positions can challenge stereotypes that suggest women managers are less effective than their male counterparts.

On the other hand, the presence of women in management may also reduce the emphasis on gender as a relevant category, influencing the beliefs of all workers regarding women leaders. This perspective aligns partially with the "queen bee" viewpoint [54], which argues that successful women do not support other women but instead conform to the norms of the male-dominated system. The "queen bee" viewpoint also may align with the eastern culture especially developing eastern countries like Egypt, and that goes hand in hand with the previous literature findings and statistical findings of this study (H3 is accepted).

As for the *"Glass Ceiling Syndrome"* effect, researchers rely the contradiction between the literature findings and this study's empirical findings to cultural issues.

Most female leaders do not feel glass-ceiling effects because either they are not aware of this issue or they do not care about having higher positions. Researchers believe that 'Glass Ceiling Syndrome' is a metaphor for the invisible barrier that prevents some people from rising to senior positions. This applies for women and other minorities who could be men as well. So, 'glass ceiling syndrome is not referring to women only, but also to a wide range of minorities. It does not have a direct positive effect on gender equality in public organizations in Egypt. Researchers believe the 'glass ceiling syndrome' is a metaphor for the invisible barrier that prevents some people from rising to senior positions. This applies for women and other minorities who could be men as well. It does not have a direct positive effect on gender equality in public organizations in Egypt.

The literature and the statistical findings assured that women *age* is playing a positive moderating role between institutional design, glass ceiling syndromes, traditional

stereotypes, and gender equality in public organizations, respectively. Although, the exploratory interview results revealed that respondents (especially the two informed participants) did not acknowledge this relationship. They believed age is playing a moderating role for both genders.

The researchers would like to highlight the answers of the two informed participants regarding age factor in general and its relationship with women's equality in the public sector; they clarified that age is affecting both genders not only women as the retirement age in the Egyptian public sector is 60 years old for males and females as well.

In conclusion, further research is indispensable to uncover the mechanisms that lead to increased diversity in top management positions and to understand how managerial diversity shapes the opportunities and achievements of employees below the managerial level. This necessitates robust data collection efforts that allow for rigorous testing of how specific organizational policies, practices, and other factors influence access to top management positions for members of protected groups.

Recommendations
Based upon the statistical and qualitative research results, researchers came up with following recommendations

Further research is indispensable to uncover the mechanisms that lead to increased diversity in top management positions and to understand how managerial diversity shapes the opportunities and achievements of employees below the managerial level. This necessitates robust data collection efforts that allow for rigorous testing of how specific organizational policies, practices, and other factors influence access to top management positions for members of protected groups.

Gender integration at lower management levels may not produce the ripple effects that come with integrating positions that possess real power and authority. Symbolic changes or changes limited to lower management levels are likely to be ineffective. To address larger patterns of inequality and improve representation for women and other protected groups, interventions may be necessary at multiple levels to cultivate organizational leaders who are more than mere figureheads.

Organizations, especially the public ones, should develop measures to reconcile work and family life which would increase the attractiveness of work not only for women—mothers, but also for men—fathers.

Organizations should create equal opportunities for employment and career advancement for all employees equally, regardless of gender and provide working conditions that ensure equal opportunities for men and women following the code of ethics.

Merely examining laws and modifying discriminatory statutes is not enough to address gender inequality effectively. Achieving true gender equality goes beyond ensuring equal rights; it also requires providing equitable access to services, resources, economic opportunities, and political representation.

Maintaining policy co-ordination is crucial to ensure the continuous progress of gender reform. This co-ordination should occur both horizontally, involving various government entities at the central or federal level, and vertically, fostering collaboration between different levels of government. This approach is necessary because achieving gender equality and integrating it into mainstream practices often involves implementing cross-cutting initiatives that impact multiple policy domains.

Enhance opportunities for women's organizations to engage in the policy-making process in a manner that is inclusive and transparent. This can be accomplished by involving them in advisory bodies that are regularly consulted by the government. By including women's organizations in these advisory roles, their perspectives and expertise can be effectively incorporated into the policy-making process.

Implement policies aimed at promoting better work-life balance and creating a more women-friendly environment within legislatures. This can be achieved by adopting gender-sensitive parliamentary practices and procedures. Such measures can help ensure that legislative bodies are accommodating and responsive to the needs and experiences of women, facilitating their active participation and representation in decision-making processes.

Focusing on commonalities as people have many shared values and principles. It is important for both men and women leaders to share their experiences to identify what is common and what is different. This will enrich diversity and inclusion within an organization and will enforce sustainability.

Decision makers in organizations need to give special attention to senior workers and employees training and invest in a career development program. These programs and also career counseling provide senior employees with long-term support for improving their skills, abilities and competencies.

Shaping a positive age climate and age-friendly organizational culture can reduce ageism challenges; and it will also lead to an appreciation of age diversity at workplace.

Offer media training programs focused on eliminating gender stereotypes. These training sessions can educate

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media professionals on recognizing and challenging gender biases and stereotypes in their work. By equipping them with the necessary knowledge and tools, media practitioners can contribute to creating a more inclusive and equitable media landscape that promotes gender equality and representation.

It is very important to set up a role model for women empowerment especially at grass roots level to encompass political, economic, and justice issues in these communities.

Women leaders should work toward dealing with the stereotype that women are weak participants in political systems.

Appendix 1

Participants interview questions

1. In your opinion, what are the social barriers that hinder women empowerment and attainment of leading positions in public organizations?
2. Do gender stereotypes play an important role in denying women opportunities of attaining high positions in the public sector?
3. Do negative stereotypes in rural places and upper Egypt regarding women's rights in education and work affect their opportunities in attaining leading positions in the public sector?
4. Are community negative stereotypes are the reason behind limiting women chances of working in government's leading positions.
5. What about society's acceptance of women holding high ranked positions in the public sector?
6. What is the society's main perception of women capabilities of succeeding in high ranked positions in the public sector?
7. What about women abilities of increasing value in political participation?
8. Does society in rural areas and upper Egypt question women's capabilities of making rational decisions, and coping with emotional stress and challenges?
9. Do you believe that older women have less opportunities in holding high ranked positions in public organizations?
10. Do you think older women suffer from discriminative decisions and actions in public organizations?

11. In your opinion, do rules and regulations and public institutional designs affect women's equality and empowerment in public organizations?
12. Do you believe, the combination of age and institutional design factors are prohibiting women's attainment of high ranked positions in the public sector?

Appendix 2

Research questionnaire in likert scale form

The following statements are measuring the Institutional design factors towards gender equality in public organizations, so please indicate your level of agreement towardsthe following statements. (5 strongly agree - 4 agree - 3 neutral - 2 disagree - 1 stronglydisagree)

Statements	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
Institutional rules shape workforce behavior as they constrain some actors and empower others					
Individuals who are occupying institutional different positions hold different perspectives on gender equality					
Institutional interconnections are a main source of gender inequality					
The extent to which traditional gender norms are embodied in informal rules and institutional legacies affect gender equality					
New institutions are often male-dominated and lack feminist voices					

Statements	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
Gender equality can be achieved through policies that can produce change, training and tools, and number of women staff and managers					
The negotiation processes through which new institutions are designed are often male-dominated and lack feminist voices					
Institutions are substantively gendered through numerous mechanisms emerge from social norms that result in gender bias					
Institutional change is often gradual as actors actively exploit the inherent ambiguities of institutions bias					
Significant increase in women's representation in institutions needs new rules for gender equality					

The following statements are measuring the "Glass Ceiling Syndrome" toward gender equality in public organizations, so please indicate your level of agreement toward the following statements. (5 strongly agree—4 agree—3 neutral—2 disagree—1 strongly disagree).

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Glass ceiling syndrome is described as an invisible barrier that prevents women and minorities from reaching decision-making positions					

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Glass ceiling syndrome shows up in our personal and social lives as well					
Glass ceiling syndromes also can induce faulty assessments of people					
I believe, glass ceiling syndrome is arousing from gender inequality					
Glass ceiling syndrome allows people to categorize and simplify what they observe and to make predictions about others					
Glass ceiling syndrome affects mainly women, but also minority groups as well					
The personal attitudes of an individual in promoting glass ceiling					
Job segregation is promoting glass ceiling syndrome in organizations					
Both the gender employees are progressing, but at a certain time women employees fail to get promoted to higher posts and their male counterparts attain the senior post on the basis of gender discrimination					
The friendly interpersonal relationships can hinder the glass ceiling syndrome in the organizations					

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Despite legislation for equal opportunities for both genders and the increasing number of qualified women, they are still largely underrepresented in the decision-making process in all sectors					

The following statements are measuring the Traditional stereotypes toward gender equality in public organizations, so please indicate your level of agreement toward the following statements. (5 strongly agree—4 agree—3 neutral—2 disagree—1 strongly disagree).

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
The stereotypes associating only men with brilliance is a typical stereotype and hinders women advancements					
If gender biasness is ignored, then true skills of women employees can be realized					
Traditional gendered stereotypes see the certain traits such as ambition, power and competitiveness as inherent in men, and other traits such as nurturing, empathy and concern for others as characteristics of women					
Gender-based stereotypes are informed by social norms relating to ideals and practices of masculinity and femininity					

Statements	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
In order to utilize the talents of individuals residing in a country, contribution of both genders on the basis of merit needs to be ensured					
The faulty assessments of gender stereotypes can negatively affect opportunities and work outcomes for women					
There is a paradox regarding the increase number of women workforce and their imprisonment in rigid gender stereotypes					
Gender stereotypes are enforced by both men and women					
Children learn about gender stereotypes from their immediate environment and the media, as such they learn how to behave in gender-appropriate ways					
I believe that traditional gender stereotypes derive from the awkward division of men and women roles both in the home and at work					

Abbreviations

CFI	Comparative fit index
GC	Glass ceiling
GCS	Glass ceiling syndromes
GE	Gender equality
GFI	Goodness-of-fit index

ID	Institutional design
IFC	International Finance Corporation
IFI	Incremental fit index
NFI	Normed fit index
NGO	Non-Governmental Organization
RMSEA	Root mean square error of approximation
S.D	Standard deviation
SEM	Structural equation modelling
SPSS	Statistical package for social sciences
TM	Trust model
TS	Traditional stereotypes

Availability of data and materials
The authors declare they have full access to all study data, take fully responsibility for the accuracy of the data analysis, and have authority over manuscript preparation and decisions to submit the manuscript for publication. The author confirms that all data generated or analyzed during this study are included in the body and in the appendixes of this research.s

Declarations

Ethics approval and consent to participate
The authors confirm that they have read, understand and agreed to the submission guidelines, policies and submission declaration of the journal. A local ethics committee ruled that no formal ethics approval was required in this particular research, they only asked to have a copy of the published report after the research has been completed.

Consent for publication
Consent for participant is not applicable.

Competing interests
The authors declare that they have no competing interests.

References
1. Alon-Shenker P, MacDermott T (2019) Intersecting Age and gender in workplace discrimination complaints. Comp Lab L Pol'y J 41:521
2. Al-Qahtani MMZ, Alkhateeb TTY, Mahmood H, Abdalla MAZ, Qaralleh TJOT (2020) The role of the academic and political empowerment of women in economic, social and managerial empowerment: The case of Saudi Arabia. Economies 8(2):45
3. Alsaad RI, Hamdan A, Binsaddig R, Kanan MA (2023) Empowerment sustainability perspectives for Bahraini women as entrepreneurs. Int J Innov Stud 7(4):245–262
4. Awoa PA, Ondoa HA, Tabi HN (2022) Women's political empowerment and natural resource curse in developing countries. Resour Policy 75:102442
5. Babic A, Hansez I (2021) The glass ceiling for women managers: antecedents and consequences for work-family interface and well-being at work. Front Psychol 12:618250
6. Bian L, Leslie SJ, Cimpian A (2017) Gender stereotypes about intellectual ability emerge early and influence children's interests. Science 355(6323):389–391
7. Blalock EC, Lyu X (2023) The patriot-preneur–China's strategic narrative of women entrepreneurs in Chinese media. Entrep Region Dev 35(3–4):264–296
8. Boulos S, La Barbera M (2023) Obstacles to and opportunities for protecting human rights at the city level: The case of Madrid City Council Human Rights Plan (2017–2019). Int J Hum Rights 27(4):659–684
9. Brown NJ, Dunne MD, Hamzawy A (2007) Egypt's controversial constitutional amendments, vol 23. Carnegie Endowment for International Peace, Washington
10. Chaudhary S, Qamar U, Qamar N (2021) Glass ceiling: a comparison between public and private sector university. Governance and Management Review (GMR) Volume 6, No. 1, Jan-Jun 2021
11. Cornwall A (2016) Women's empowerment: What works? J Int Dev 28(3):342–359
12. Creswell JW (2009) Mapping the field of mixed methods research. J Mixed Methods Res 3(2):95–108
13. Davinić M, Kristoffersson E, Marinković T (2023). Gender equality aspects of public law. Gender-Competent Legal Education, 305
14. de Lange AH, van der Heijden BI, Jong ND, Bal PM, Schaufeli WB (2010). Psychological contract breach and work motivation: the moderating role of time perspective and regulatory focus
15. DiMaggio PJ, Powell WW (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. Am Sociol Rev, 147–160
16. Drabe D, Hauff S, Richter NF (2015) Job satisfaction in aging workforces: an analysis of the USA, Japan and Germany. Int J Hum Resour Manage 26(6):783–805
17. Eagly AH (2013) Sex differences in social behavior: a social-role interpretation. Psychology Press, London
18. Elacqua TC, Beehr TA, Hansen CP, Webster J (2009) Manager's beliefs about the glass ceiling: interpersonal and organizational factors. Psychol Women Q 33:285–294. https://doi.org/10.1111/j.1471-6402.2009.01501.x
19. El-Haddad A (2023) Political patronage and economic opportunity: vertical integration in egyptian textiles and clothing. Eur J Dev Res 35:1224–1257
20. Fakhr El Din H, Samy C, Miniesy R (2022) Women entrepreneurs in Egypt. In: Women entrepreneurs in North Africa: historical frameworks, ecosystems and new perspectives for the region, pp 137–161
21. Gains F, Lowndes V (2016). How is Gender implicated in institutional design and change? The role of informal institutions: a case study of police and crime commissioners in England and Wales
22. Global Gender Gap Report (2021)-weforum.org; retrieved at: https://www3.weforum.org
23. Guest G, Bunce A, Johnson L (2006) How many interviews are enough? An experiment with data saturation and variability. Field Methods 18(1):59–82
24. Halim H, Halim Y (2012) Auditing human resource management practices in the hospitality industry—a proactive approach. Egypt J Tourism Hosp vol 19 Issue 1
25. Halim H, Halim Y (2012) Emotional Intelligence and Employee Performance in the Hospitality Industry in Egypt Egypt J Tourism Hosp vol 19 Issue 1
26. Halim YT, Emara OAE (2018) Emotional intelligence management improvement effect: enhancing employees' performance in the state-owned hotels in Egypt. J Commer Environ Stud (JCES) 9(2):2090–3782
27. Harnois CE (2015) Age and gender discrimination: Intersecting inequalities across the lifecourse. At the center: feminism, social science and knowledge, vol 20. Emerald Group Publishing Limited, Bradford, pp 85–109
28. Hegazy M, El-Deeb MS, Hamdy HI, Halim YT (2023) Effects of organizational climate, role clarity, turnover intention, and workplace burnout on

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audit quality and performance. J Account Organ Change. https://doi.org/10.1108/JAOC-12-2021-0192

29. Hentschel T, Heilman ME, Peus CV (2019) The multiple dimensions of gender stereotypes: a current look at men's and women's characterizations of others and themselves. Front Psychol 10:11

30. Hernández-Truyol BE (2023) Awakening the law: unmasking free exercise exceptionalism. Emory Law Journal 72(5):1061

31. Hirose M, Creswell JW (2023) Applying core quality criteria of mixed methods research to an empirical study. J Mixed Methods Res 17(1):12–28

32. Ivankova NV, Plano Clark VL (2018) Teaching mixed methods research: using a socio-ecological framework as a pedagogical approach for addressing the complexity of the field. Int J Soc Res Methodol 21(4):409–424

33. Jain N, Mukherji S (2010) The perception of 'glass ceiling' in indian organizations: an exploratory study. South Asian J Manage 17(1):1

34. Jick TD (1979) Mixing qualitative and quantitative methods: triangulation in action. Adm Sci Q 24(4):602–611

35. Bockarie JI (2021) Glass ceiling syndrome effects on women empowerment, research paper, USA

36. Khairy YH, Ghoneim H (2023) Women's access and perception of decent work: a case study on Egypt. Manage Sustain Arab Rev 2(2):177–202

37. Lombardi CB, Brown NJ (2005) Do constitutions requiring adherence to Shari'a threaten human rights-how Egypt's constitutional court reconciles Islamic law with the liberal rule of law. Am U Int'l L Rev 21:379

38. Louden-Cooke S (2023) Power, politics & resistance: secularism and women's marital rights in Egypt and Iran. Br J Middle Eastern Stud. https://doi.org/10.1080/13530194.2023.2185591

39. Manzi C, Sorgente A, Reverberi E, Tagliabue S, Gorli M (2021) Double Jeopardy-analyzing the combined effect of age and gender stereotype threat on older workers. Front Psychol 11:606690

40. Mapedza E, Huyer S, Chanana N, Rose A, Jacobs-Mata I, Mudege NN, Nohayi N (2023) Framework for incorporating gender equality and social inclusion (GESI) elements in climate information services (CIS). Sustainability 15(1):190

41. Merry SE (2003) Constructing a global law-violence against women and the human rights system. Law Soc Inq 28(4):941–977

42. Mntambo S, Adebayo P, Ndinda C (2023) Women, informal settlements, and the policy practice disjuncture in South Africa. The Palgrave handbook of global social problems. Springer International Publishing, Cham, pp 1–22

43. Mousa M (2023) From Intersectionality to substantive representation: Determinants of the representation of women faculty in academic contexts: Voices of Egyptian academic leaders. Int J Public Adm 46(2):97–106

44. Nehemia NM, Lenkoe NM (2023) The impact of South African culture on the work-life balance of women in leadership positions. Int J Innov Res Sci Stud 6(2):212–226

45. Ng TW, Eby LT, Sorensen KL, Feldman DC (2005) Predictors of objective and subjective career success: a meta-analysis. Pers Psychol 58(2):367–408

46. Perianes Bermúdez AB (2022) Women's economic empowerment after the COVID-19: state of the art and significance for the women, peace and security agenda. Secur Dial 13(2):63–83

47. Pinto P, Aquinas PG (2018) Glass ceiling effect on women employees: a panoramic view. ZENITH Int J Multidiscipl Res 8(2):46–56

48. Ragasa C, Kyle J, Kristjanson P, Eissler S (2023). Conceptualizing women's empowerment in agrifood systems governance: a new framework (Vol 2153). Intl Food Policy Res Inst

49. Raimi L, Panait M, Gigauri I, Apostu SA (2023) Thematic review of motivational factors, types of uncertainty, and entrepreneurship strategies of transitional entrepreneurship among ethnic minorities, immigrants, and women entrepreneurs. J Risk Financ Manage 16(2):83

50. Ross CE, Mirowsky J (2002) Age and the gender gap in the sense of personal control. Social Psychol Quart 65:125–145

51. Sharma S, Kaur R (2019) Glass ceiling for women and work engagement: the moderating effect of marital status. FIIB Bus Rev 8(2):132–146

52. Siamak Seyfi ID (2023) The gendered effects of statecraft on women in tourism: economic sanctions, women's disempowerment and sustainability?. Gender and Tourism Sustainability

53. Singh AS, Masuku MB (2014) Sampling techniques & determination of sample size in applied statistics research: an overview. Int J Econ Commerce Manage 2(11):1–22

54. Staines G, Tavris C, Jayaratne TE (1974) The queen bee syndrome. Psychol Today 7:55–60

55. Stewart R, Wright B, Smith L, Roberts S, Russell N (2021) Gendered stereotypes and norms: a systematic review of interventions designed to shift attitudes and behavior. Heliyon 7(4):e06660

56. Stivers C, Pandey SK, DeHart-Davis L, Hall JL, Newcomer K, Portillo S, Sabharwal M, Strader E, Wright J (2023) Beyond social equity: talking social justice in public administration. Public Adm Rev 83(2):229–240

57. Sweeting L (2020) Bruised but never broken: the fight for gender equality in Egypt and Bangladesh. Global Majority 11(2):102–116

58. Tabassum N, Nayak BS (2021) Gender stereotypes and their impact on women's career progressions from a managerial perspective. IIM Kozhikode Soc Manage Rev 10(2):192–208

59. Tabet K, Menhall N, Mortada H, Hanna J, Hammad M (2019) Counting on women's work without counting women's work: women's unpaid work in Jordan, Lebanon, Tunisia and Egypt

60. Tashakkori A, Creswell JW (2007) The new era of mixed methods. J Mixed Methods Res 1(1):3–7

61. Tashakkori A, Teddlie C (2010) Putting the human back in "human research methodology": the researcher in mixed methods research. J Mixed Methods Res 4(4):271–277

62. United Nations (2022) Advocacy Brief-Older Women-OHCH; Retrieved at: https://www.ohchr.org/sites/default/files/2022-03/UN-Advocacy-Brief-Older-Women.pdf

63. United States. Federal Glass Ceiling Commission. (1995). Good for business: making full use of the nation's human capital: a fact-finding report of the federal glass ceiling commission. US Government Printing Office

64. Varón, D. A., & Mello, R. C. (2020). Feminizing politics: the impact of gendered institutions on women's political influence and representation

65. Wilkinson J, Male T (2023) Perceptions of women senior leaders in the UK Higher Education during the COVID-19 pandemic. Educ Manage Adm Leader, 17411432221150079

66. Windsor RS (2020) The moderating effects of gender and occupation on age discrimination in hiring (Doctoral dissertation, San Jose State University)

67. Zaazou Z, Tawfik Y (2018) Leadership traits' impact on employees' performance in the banking sector (A Field Study on Bank Misr). J Manager Res Sadat Acad Manage Sci 36(1):167–193

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