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**Gender Bureaucratic Representation in Local Governments: Examining Drivers and
Effects in Mexican Municipalities**

T E S I S

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ABSTRACT

Women's participation in decision-making is crucial for achieving gender equality, as emphasized in international frameworks like CEDAW and the Beijing Platform for Action. Latin American countries, including Mexico, have made significant progress in gender representation, particularly in legislative bodies, with milestones such as the 2014 electoral reform leading to gender parity in Congress. However, women's representation in the public bureaucracy remains limited, especially in leadership positions, where men dominate. By 2021, only 30% of municipal leaders in Mexico were women. This research focuses on gender representation in Mexican municipal administrations, examining women's presence, challenges, and the factors influencing their leadership. It comprises three interconnected studies. The first explores gender disparities in municipal leadership, highlighting persistent wage gaps and segregation patterns. The second investigates the impact of female mayors and councils on broader representation in local bureaucracies, emphasizing top-down and critical mass effects. The third analyzes how female leadership fosters citizen participation, with findings indicating women's democratic leadership style enhances engagement under stable conditions. Mexico's decentralized structure offers a unique lens to understand gender dynamics in governance. This thesis aims to inform policies that promote gender equity in public administration and improve governance outcomes through increased female representation.

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INTRODUCTION

Women's participation in power and decision-making is recognized as a fundamental principle for achieving substantive equality, as outlined in the Beijing Platform for Action (United Nations, 1995). One of the earliest commitments on the international agenda was the 1975 Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). Through this Convention, United Nations member states pledged to implement measures to eliminate discrimination against women in political and public life within their respective countries (UN Women, 2016).

Since 1991, Latin American governments have made significant advancements in gender equality by enacting affirmative measures, including introducing gender quotas for legislative bodies (Reynoso & D'Angelo, 2004; Freidenberg & Lajas García, 2017). These initiatives have positively affected women's descriptive representation within the legislative sphere. In Mexico, the 2014 electoral reform represented a crucial turning point, leading to a notable increase in female representation in the Chamber of Deputies, which reached 42.6% by 2017, outpacing the OECD average of 28.8% (OECD, 2018). The LXV legislature (2021-2024) marked a significant milestone, with women making up 50% of the Chamber of Deputies (250 female deputies) and 51% of the Senate (65 female senators). Indeed, Mexico attained the top rank among OECD countries for the highest percentage of women in parliament (IMCO, 2018).

Another crucial area for decision-making is the bureaucracy, where the inclusion of women has advanced more slowly, leading to their underrepresentation (Meier & Wilkins, 2002; Miller et al., 2002). Although some governments have adopted strategies to enhance diversity in executive bodies, such as affirmative action (Miller & McTavish, 2014), these measures are mostly lacking in Latin America (Cortázar et al., 2014). In Mexico, while the number of women in public employment has increased, this progress has not resulted in a corresponding rise in women holding higher-ranking positions within public organizations. At the federal level, the representation of women decreases as positions and income levels rise (IMCO, 2021). This trend is also observed at the local level. By the end of 2021, only 30% of municipal public administration leaders were women, while the remaining 70% were men (INEGI, 2021).

The World Economic Forum (2022) highlights that, despite some global progress, the gender gap in various sectors, including public administration, is closing slowly. At the current rate, achieving full gender parity worldwide may take up to 132 years. This data emphasizes the necessity for more effective and widespread strategies to address gender disparity and to increase women's representation in decision-making roles within the public sector.

Understanding the dynamics between gender and public administration is essential for several reasons, including promoting equality within public employment and creating more equitable and inclusive work environments. Achieving gender equality in public administration is normatively desirable; however, evidence also suggests that, under certain conditions, the presence of women in bureaucracy can advance female interests within the policy process (Bishu & Kennedy, 2019; Park & Liang, 2019; An, Song & Meier, 2022). Additionally, research has shown that female representation in the public bureaucracy can positively impact governmental performance and outcomes (Brudney et al., 2000; Jacobson et al., 2009; Wilkins, 2006). While the literature on this topic is extensive, much remains focused on the United States, especially at the federal or national level, with fewer studies adopting a cross-national perspective (An et al., 2021; Park & Liang, 2021; Meier, 2023).

This research aims to comprehensively examine women's representation in municipal public administrations in Mexico. First, it adopts a descriptive approach to assess the status of women, highlighting their presence, progress, and the challenges they face within local governments. After identifying segregation patterns in leadership roles, this study explores the factors that explain why some municipalities exhibit higher female representation than others. Building on this analysis, it investigates the conditions that foster women's participation in leadership positions, examining when and why women's representation increases. Finally, the study explores whether women's leadership styles result in distinct governance outcomes compared to those of male leaders.

Mexico's decentralized municipal structure, characterized by diverse administrative practices and a high degree of local autonomy, provides an ideal context for analyzing how gender dynamics shape leadership and influence governance at the regional level. This study's findings

contribute to a deeper understanding of gender representation in public administration and inform future policies and practices to enhance gender equity.

CLARIFICATION

Gender identity refers to a person's deeply felt, internal, and individual experience of gender, which may or may not align with their physiology or designated sex at birth (WHO, 2023). Today, "gender" encompasses a spectrum of identities and does not automatically refer to women, as it often did in the past. Although the title of this thesis includes the word "gender," this research specifically focuses on individuals whose biological sex is female. This focus is mainly due to the nature of the data used, which comes from The National Census of Municipal Governments and Territorial Demarcations of Mexico City.

STRUCTURE OF THE DOCUMENT

This thesis comprises three interconnected articles contributing to the global discourse on gender in representative bureaucracy. Each article addresses a unique research question employing distinct methodologies, all aimed at advancing the overarching goal of the thesis: understanding gender bureaucratic representation and dynamics within Mexican public administration.

Paper 1: Leadership in Shades of Inequality: Examining Gender Disparities in Mexican Municipalities

The first chapter explores gender disparities within municipal public administrations in Mexico. It provides a descriptive analysis of women's representation in leadership positions and examines vertical and horizontal segregation and existing wage gaps. Using data from the National Census of Municipal Governments, this study identifies significant gender gaps, particularly in leadership roles. The research reveals persistent salary inequalities even when comparing male and female leaders in equivalent positions.

Paper 2: Women Promoting Women? Exploring Gender Representation in Local Bureaucracy

The second chapter investigates the factors contributing to variations in female representation within local government bureaucracies, explicitly focusing on passive representation. Drawing on the theory of top-down representation, this chapter argues that female leadership has a trickle-down effect; the presence of a female mayor increases the likelihood of appointing other women to top management positions, thereby enhancing the overall representation of women in public administration. Additionally, the chapter incorporates the concept of critical mass, suggesting that a more significant presence of women in city councils can trigger a contagion effect, further driving the recruitment and promotion of women throughout the bureaucracy. Utilizing panel data from 2013 to 2021, this chapter employs a quantitative approach to examine the proportion of women in leadership roles and across the broader municipal workforce, accounting for variables such as poverty, political context, and urbanization.

Paper 3: Does Female Leadership Influence Citizen Participation? Analyzing Mexican Municipalities

The third chapter examines the relationship between female leadership and citizen participation in Mexican municipalities, focusing on whether female leaders are more likely to encourage citizen engagement. Grounded in the social psychology approach, the study explores how women's leadership style, typically more cooperative and democratic, positively impacts the adoption of citizen participation mechanisms. Findings suggest that female leaders, particularly mayors and top-level administrators, are likelier to promote citizen participation than males. However, female mayors are likelier to foster this engagement only in stable conditions, such as during their first year in office or after re-election. This nuanced approach highlights how specific contextual factors influence the impact of female leadership on citizen participation.

1. LEADERSHIP IN SHADES OF INEQUALITY: EXAMINING GENDER DISPARITIES IN MEXICAN MUNICIPALITIES¹

ABSTRACT

Research on gender representation and segregation has predominantly focused on the United States. There is a significant gap in understanding these issues within the Latin American context, particularly regarding comprehensive data on gender dynamics at the local government level. This study analyzes gender disparities in Mexico's local public administration from 2015 to 2021, utilizing data from the National Census of Municipal Governments. The research investigates various dimensions of gender inequality, including horizontal and vertical segregation and the wage gap. The findings reveal that women are significantly underrepresented in top-level management roles. This underrepresentation continues even in predominantly female sectors, such as culture and health, where one might expect greater equity in both representation and leadership opportunities. Additionally, women occupying top leadership roles earn lower remuneration than their male counterparts. This research provides critical insights into the persistent gender gap and emphasizes the obstacles women encounter in local public administration in Mexico.

Keywords: Representative Bureaucracy; Gender Segregation; Gender Equality; Women Managers; Local Government; Mexico.

¹ I would like to sincerely thank the National Institute of Statistics and Geography (INEGI) for their invaluable support, which granted me access to their Microdata Laboratory, from which I obtained the essential information for my research.

INTRODUCTION

Since the establishment of the Beijing Platform for Action by the United Nations in 1995, it has become increasingly evident that women's participation in power and decision-making is crucial for achieving equality. The Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) in 1975 marked a significant step forward, with member states committing to ending discrimination against women in political and public life within their borders. Notable progress has been made in political representation, particularly in the legislative sphere. Nevertheless, women's presence in managerial roles within the bureaucratic sphere remains limited (Alkadry & Tower, 2014; Cáceres-Rodríguez, 2013; Canelo, 2020; Chudnovsky, 2020; Gaete & Álvarez, 2020).

The literature on bureaucratic representation has shown concern for the representation of women in public administration. Bureaucratic Representation (BR) theory suggests that the backgrounds and origins of bureaucrats shape their values and actions in their roles, enabling them to advocate for specific groups within the policy process (Bradbury & Kellough, 2011; Mosher, 1982). Diversifying bureaucracies is essential to achieving social equity through public administration (Frederickson, 1990), as these structures are responsible for delivering public services that are accessible, fair, and of high quality to all members of society (Johnson & Svara, 2015). Consequently, promoting greater inclusion of women in public administration can benefit the populations they serve (An et al., 2022; Bishu & Kennedy, 2020; Park & Liang, 2021) and lead to a more equitable and just society. However, gender-based segregation persists in various forms despite increased representation.

While this topic has been extensively studied in the United States, there is a significant need for research in the Latin American context, particularly regarding women's roles within bureaucracies at subnational levels. This study contributes to the existing literature by providing an in-depth analysis of gender inequalities in local public administration, focusing on Mexico's municipal government. Specifically, it examines the representation of women and men in leadership positions, exploring dimensions such as horizontal segregation, vertical segregation, and the wage gap. Horizontal segregation refers to the underrepresentation of women in senior management positions. Vertical segregation relates to stereotypes about gender roles, which can

result in women being overrepresented in specific areas like social services, education, and mental health and underrepresented in fields typically associated with masculine skills, such as finance and public safety. The wage gap is calculated by examining the average income difference between men and women in senior management across municipal departments.

This descriptive study analyzes the representation of women within Mexican municipal bureaucracies using data from the National Census of Municipal Governments and Territorial Demarcations of Mexico City (NCMGTD), alongside public databases and microdata from the National Institute for Statistics and Geography. Covering the period between 2015 and 2021, it provides a comprehensive overview of women's involvement in local government. The case of Mexico is particularly notable due to significant variations in female representation in managerial roles at the municipal level. On average, fewer than 30 percent of municipal public administration heads are women, with some municipalities exceeding 70 percent representation, while others fall below 10 percent.

The paper begins by framing the discussion on gender-based bureaucratic representation and segregation within the context of existing literature. It then details the dimensions of the analysis, including vertical segregation, horizontal segregation, and persistent wage disparities in public employment. Methodological considerations are presented next. Following this, the study contextualizes the case of Mexico, outlining the specific characteristics of public administration at the municipal level and the structure of its bureaucracy. The subsequent sections address the situation of women in Mexican municipalities and the manifestations of gender inequalities in local public entities. Finally, conclusions are drawn to highlight the findings and their broader implications.

1.1 WOMEN IN PUBLIC ADMINISTRATION: NAVIGATING BETWEEN REPRESENTATION AND SEGREGATION

The RB theory recognizes three types of representation. Passive representation is when bureaucracies share the demographic origin of the population to which they belong (e.g., ethnicity, race, gender) (Mosher, 1982). Active representation is when this origin is reflected in the actions of bureaucrats, and they can serve the interests of the groups they represent in the

political process (Bradbury & Kellough, 2011; Mosher, 1982). Symbolic representation (SR) occurs when the mere existence of a passively represented bureaucracy can be translated into benefits for citizens without any action taken by bureaucrats. For example, it implies improving citizens' trust and legitimacy, even without bureaucrats' direct advocacy (Ricucci & Van Ryzin, 2017, p. 25).

Increasing diversity in public administrations promotes social equity (Frederickson, 1990). In the context of active representation, including women in public organizations has shown positive impacts. For example, female teachers have been found to improve the performance of female students (Dhillon & Meier, 2022), particularly in subjects like mathematics (Keisser et al., 2002; Zhang, 2019). Law enforcement agencies with higher female representation report increased cases and arrests for sexual assault (Meier & Nicholson-Crotty, 2006), and police forces with more women make more arrests related to domestic violence (Andrews & Miller, 2013). Furthermore, local agencies with a significant presence of women have been linked to fewer cuts in social spending during economic downturns (Park, 2017).

On the other hand, research on passive representation indicates a gradual but limited increase in the number of women in leadership over time (Anestaki et al., 2016; Bowling et al., 2006; Chudnovsky, 2020; Gidengil & Vengroff, 1997; Moldovan, 2016; Smith & Monaghan, 2013). Coupled with this slow progress, women face significant obstacles in ascending to leadership roles and high-level positions. These barriers are often categorized as vertical segregation, the "glass ceiling," which prevents women from advancing to top-level roles, and horizontal segregation, or "glass walls," which confine women to specific organizational departments or functions. These challenges hinder individual career advancement and reflect the complexity of achieving genuine gender equity within public administration.

Vertical segregation refers to the situation where women are disproportionately concentrated in lower-level positions in both public and private employment sectors. Their gender often determines their position and income. Even when job characteristics and human capital variables are considered, women have fewer opportunities to occupy positions of authority than men (Alkadry & Tower, 2014; Mitra, 2003). Moreover, when women do achieve leadership roles,

they typically manage fewer subordinates, bear less financial responsibility (Alkadry et al., 2019) and receive lower compensation than their male counterparts (Bygren & Gähler, 2012; Wolf & Fligstein, 1979; Yaish & Stier, 2009).

Horizontal segregation refers to the uneven distribution of women across different departments within organizations. This means that women are overrepresented in some areas and underrepresented in others. This inequality is influenced by various factors, including gender stereotypes associated with specific professions and the characteristics of organizations. Research suggests that individuals' opportunities can vary depending on the type of organization, as outlined in Lowi's typology (1985). According to this framework, agencies are classified based on the type of policy they handle, each category having a distinct political structure, process, and dynamics among different elites and groups.

For example, organizations that aim to *redistribute* wealth, property, or rights among social classes or racial groups in society- often transferring value from one group to another, such as those focused on health, well-being, or education- tend to have a higher proportion of women (Newman, 1994; Kerr et al., 2002; Miller et al., 1999). These organizations typically employ social workers and nurses, traditionally considered feminized professions (Sneed, 2007). Many women perceive discrimination in hiring and promotions in distributive organizations that allocate privileges, powers, or resources in public services, such as transportation, natural resources, and agriculture (Newman, 1994). *Regulatory agencies* that enforce obligations and sanctions to control individual and collective behavior tend to exhibit high levels of occupational segregation for women (Newman, 1994; Kerr et al., 2002; Miller et al., 1999).

Finally, wage disparities are intricately linked to horizontal and vertical segregation. On one hand, the gender wage gap may stem from the limited representation of women in high-ranking positions, where the highest salaries are typically found. On the other hand, wage disparity is also associated with horizontal segregation as salaries are usually linked to departmental mission (Lewis y Soo Oh, 2009). Salaries in redistributive agencies are, on average, lower than those in distributive and regulatory agencies (Miller et al., 1999).

The existing body of evidence on gender representation and segregation has predominantly centered around the U.S. context, leading to a lack of information about these dynamics specific to Latin America. This extension is crucial for obtaining a comprehensive understanding of the inequalities in women's representation. Furthermore, this study sheds light on a relatively understudied case: the local governments within the region.

1.2 METHODOLOGICAL CONSIDERATIONS

This research uses a case study methodology to explore the representation of women in bureaucracy at the local level. The study is exploratory, as the topic is relatively understudied and is considered a revelatory case (Yin, 2018). While there is existing research on women in bureaucracy at a national level, the representation of women at the local level has yet to be systematically explored in the region. The study employs an embedded case study design that includes multiple units of analysis (municipalities in Mexico) that collectively represent the situation of women in local bureaucratic organizations in the Mexican context.

The data used in this study was collected from the National Census of Municipal Governments and Territorial Demarcations of Mexico City (NCMGTD) through the National Institute for Statistics and Geography of Mexico microdata laboratory. The analysis covers 2015, 2017, 2019, and 2021. The information obtained from the bureaucracy is focused on the heads of municipal departments. Only one person is considered the owner of each existing department in the municipal public administration, and they are the highest authority within their department. Other terms used in this document interchangeably include top-level managers, leaders, or heads. This grouping was used because this is how the information is collected in the Census, which does not contain details of other levels of command within the municipalities.

The study mainly examines horizontal and vertical segregation and the wage gap in Mexico. The analysis is based on the municipal addresses, as they provide accurate data and enable a fair comparison between genders. However, the study excludes municipalities governed by users and customs and those for which data was unavailable for most questions. As a result, the final sample size for analyzing gender inequality comprises 1,896 municipalities, approximately 77% of the total Mexican municipalities.

1.3 EXAMINING GENDER INEQUALITIES IN MUNICIPAL LEADERSHIP

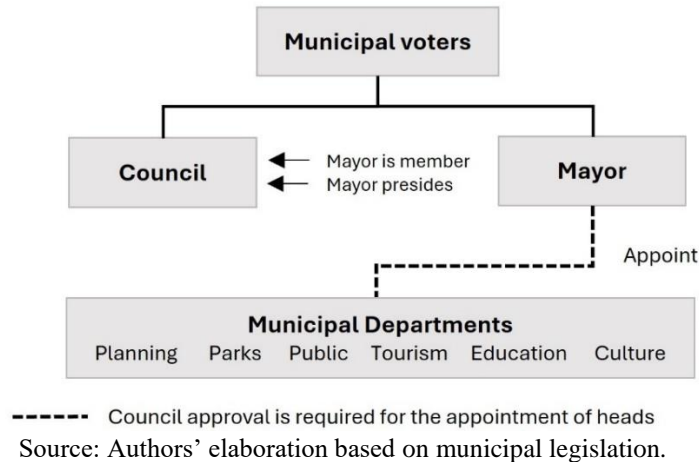
1.3.1 Understanding the Local Administrative Context

Mexico has a decentralized government system consisting of three levels (Federation, federal entities, and municipalities). The municipal governments in Mexico are responsible for identifying public problems, choosing appropriate action mechanisms, defining government policies and programs, and evaluating the results of their actions (Arellano et al., 2011, p. 36). Municipalities in Mexico differ in their capacity, resources, level of development, and size. Some municipalities have all the essential public services their population needs, while others, like rural or indigenous municipalities, lack essential services such as water and hospitals (Arellano & Cabrero, 2011). The total municipalities in Mexico are divided into 5.2% urban, 54.9% intermediary, and 39.9% rural. However, more than half (51.4%) of the Mexican population lives in urban areas.

The mayor is the highest executive authority in most Latin American countries and has political and administrative responsibilities (Avellaneda, 2009). The length of the mayor's term varies depending on the political constitution of the federal entity to which each municipality belongs, but it typically lasts three years. Following the Constitutional reform of 2014, consecutive elections for municipal presidents, councilors, and trustees are now permitted if the term of office is at most three years. The mayor can appoint and dismiss municipal secretariats, subject to the city council's approval.²

² The way in which the head of municipal departments is designated can vary depending on the specific structure and regulations of each municipality, as well as the state laws that govern such designations. In most cases, the appointment is the responsibility of the municipal president. In some municipalities, the mayor directly appoints the heads of the secretariats, often with the approval or ratification of the local council.

Figure 1. Process for appointing a head in Mexican municipalities



The requirements for obtaining a tenured position in local agencies can vary depending on the local regulations. Some municipal laws may require only a high school or technical degree, while others may require a professional degree or at least one year of experience in the field. Moreover, the specific profiles required for these positions may differ depending on the administrative area.³ However, it is worth noting that local bureaucracies usually lack professionalization, and most hiring is based on trust, loyalty, and proximity with the municipal presidents. As a result, management positions usually have a high turnover (Arellano et al., 2011; Merino, 2006).

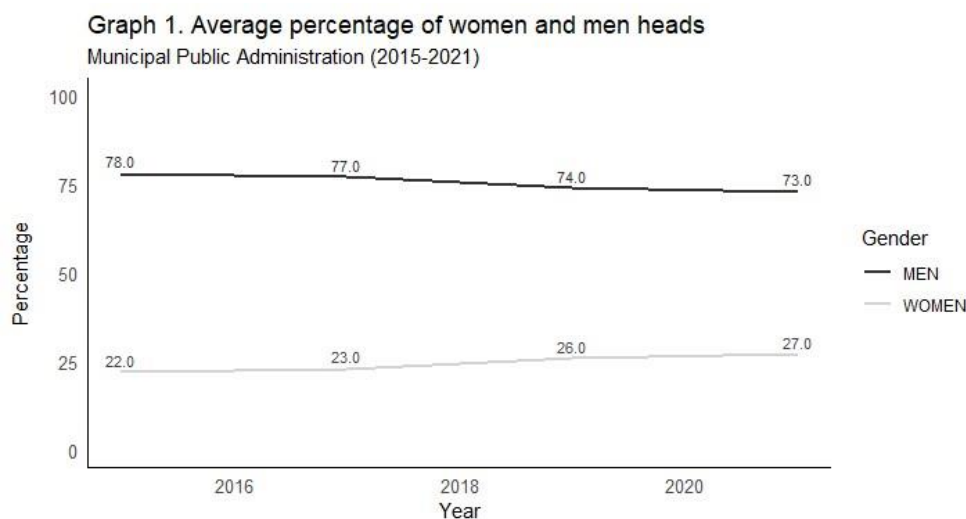
While the 2019 constitutional reform established the principle of gender parity in the appointments of secretariats within the Federal Executive Branch and their equivalents in the federal entities, its implementation in municipal governments remains gradual and inconsistent. Some states, such as the State of Mexico, have taken concrete steps toward institutionalizing parity in municipal councils and public administration departments, as evidenced by reforms enacted in 2020 and 2023. However, the data presented in this document corresponds to 2021 and reflects information provided by municipal governments from the previous year. Consequently, the effects of the "transversal parity" principle are not yet evident in the current results.

³ The municipal administrative structure in Mexico shows significant variations as it depends on the capacities and resources of each municipality, which is reflected in the number of administrative units.

1.3.2 Vertical segregation

In Latin America, there has been a slight improvement in the participation of women in national presidential cabinets. According to data from 2023, the average percentage of women in such positions rose from 23.5% during the first presidential term to 28.7% in the latest presidential term across countries (ECLAC, 2023). This average is similar to the representation of women leaders in municipal governments in Mexico. Graph 1 displays the average percentage of women and men employed in municipal public administration. From 2015 to 2021, the gap narrowed by 10%, yet as of 2021, only 27% of municipal leadership positions were held by women.

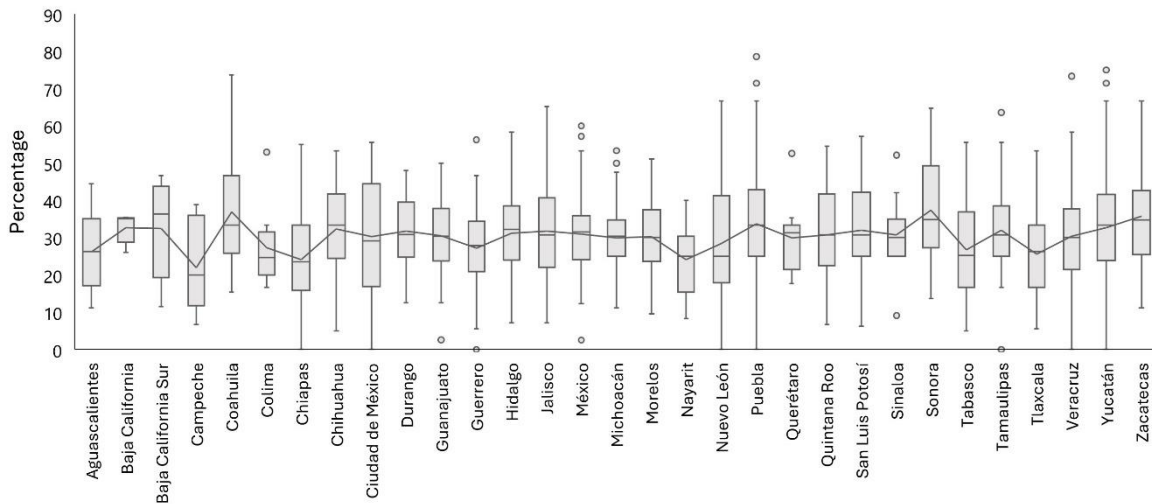
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Source: Authors' elaboration based on National Census of Municipal Governments and Territorial Demarcations of Mexico City (NCMGTD).

This represents progress, but men still dominate these positions (73%). There is substantial variation across municipalities: some, particularly in Durango, Puebla, and Veracruz, have female representation over 70%, whereas others, such as Coahuila, Guanajuato, Jalisco, Nuevo León, and even parts of Puebla, have less than 10%.

Graph 2. Percentage of Women in Top Positions in Municipal Public Administration
Municipal Variations by State (2021)



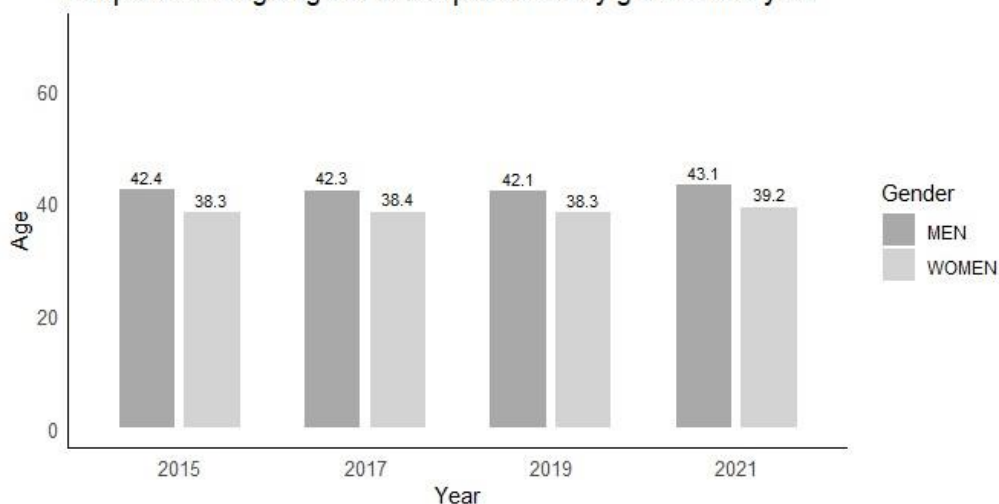
Source: Authors' elaboration based on NCMGTD.

Despite similarities in age, prior work experience, and education, the continued segregation of women in high-level positions has been observed. The following data shows that women in top-level management positions tend to be slightly younger and have higher educational qualifications than men.

Age

The average age for women who attain high-level positions is 38, while men's average age is four years older (42). In 2021, both genders experienced an average increase of one year. Upon closer examination of the age distribution, it was found that 50% of women in these positions are 38 or younger, while 75% of tenured women are 42.84 or younger. Conversely, 50% of men in these positions are 42.13 or younger, with 75% being 45.5 or younger. These results suggest that female heads are, on average, younger than male heads.

Graph 3. Average age of municipal heads by gender and year

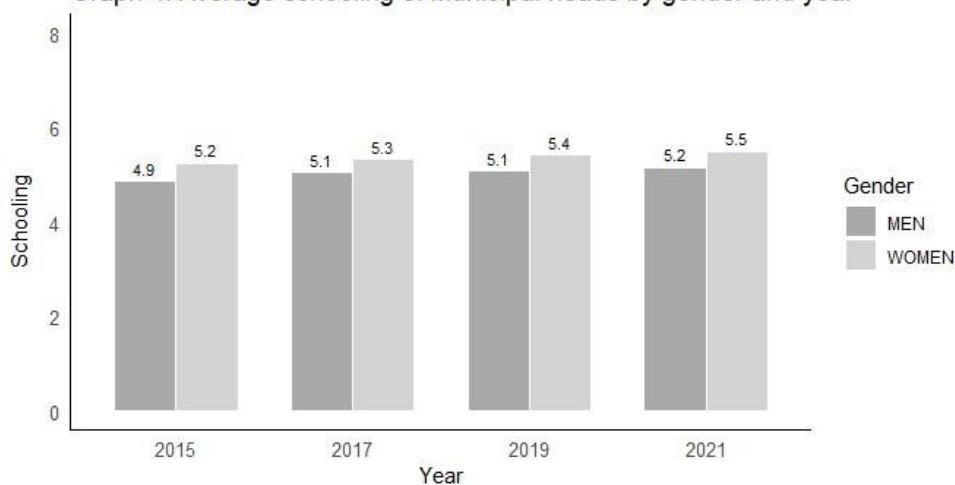


Source: Authors' elaboration based on NCMGTD.

Schooling

On average, women tend to have higher educational qualifications than men. Codes 3 and 4 represent the high school, 5 represent technical careers, 6 represent bachelor's degrees, 7 represent master's degrees, and 8 represent doctorate. Women tend to score 0.3 points higher than men in educational attainment. In all the studied years, 75% of women attained a bachelor's degree (Code 6). On the other hand, men's educational attainment threshold in the first two years is typically at technical or commercial career levels (Code 5.54 and 5.5, on average, respectively), while in the last two years, they almost reached the bachelor's level (Code 5.6 on average).

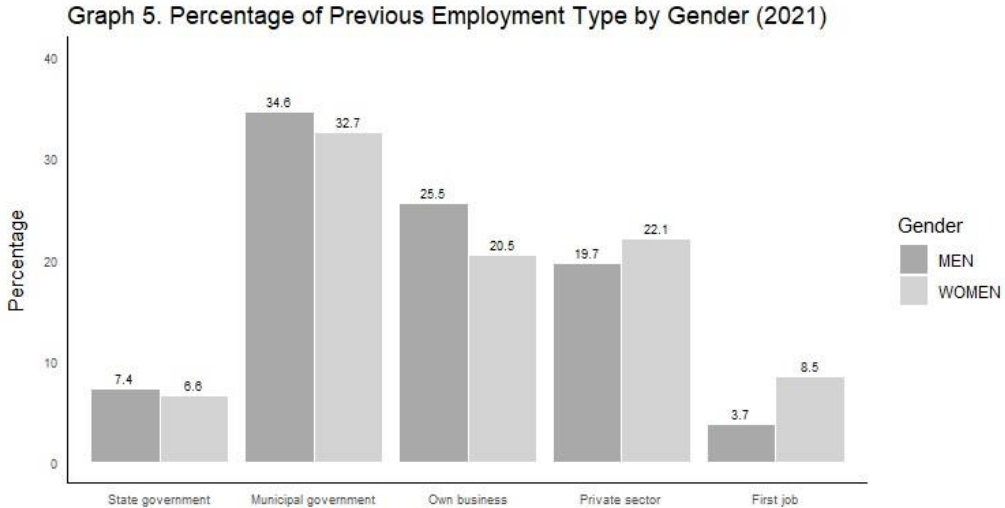
Graph 4. Average schooling of municipal heads by gender and year



Source: Authors' elaboration based on NCMGTD.

Employment background

Both male and female managers share similar work backgrounds. A large percentage of men have worked in the municipal government (34%) and private sector (25.5%), and women also showing a similar trend, with a significant portion having worked in the municipal sphere (32.7%) and in the private sector (22.1%). Furthermore, it is worth mentioning that many women reported their first job experience compared to men.



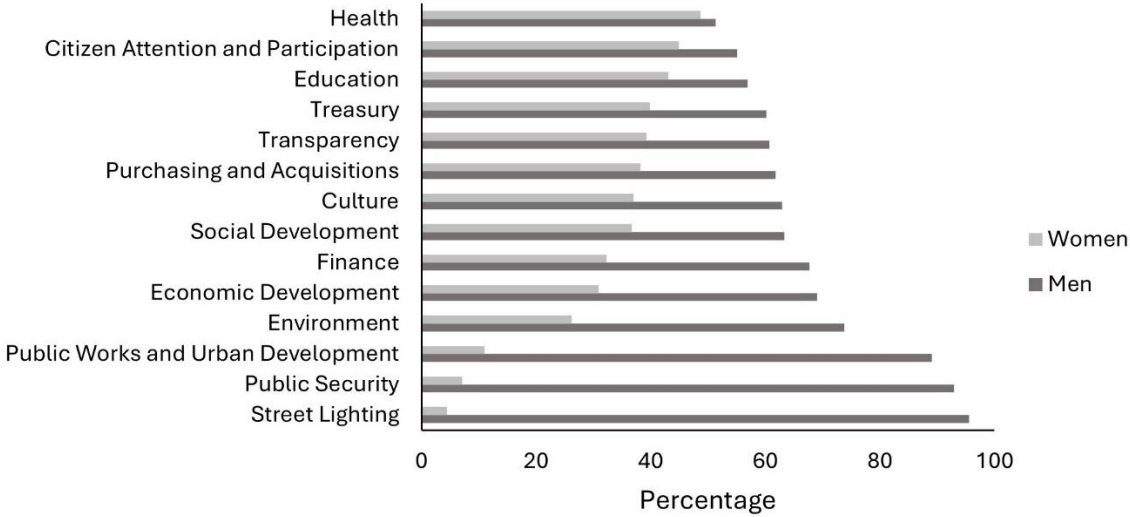
Source: Authors’ elaboration based on NCMGTD.

1.3.3 Horizontal segregation

The selection of departments for analyzing horizontal segregation is based on evidence gathered from Latin America and other global regions (Naranjo et al., 2023; UNDP & PU, 2021). Only those agencies present in at least 70% of the sample were included to ensure a representative sample. Some agencies that performed multiple functions were considered together. Of the 14 departments selected, women are expected to hold more positions in Social Development, Culture, Education, Health, and Citizen Attention and Participation. Conversely, women will likely be underrepresented in Economic Development, Treasury, Environment, Public Works, Urban Development, Public Security, and Finance. Additionally, three more agencies were selected as they are present in most municipalities, and it is unclear how many women are represented: Street Lighting, Purchasing and Acquisitions, and Transparency.

Based on the 2021 data, women in Mexican municipalities are not overrepresented in any department. They do not even represent 50%. Their representation varies, with up to 40% of women in departments such as Health, Citizen Attention and Participation, Education, Transparency, and Treasury. The departments that continue at the level of representation are Purchasing and Acquisitions (38%), Social Development (37%), Culture (37%) and Finance (32%). Women are less represented in departments such as Economic Development (31%), Environment (26%), Public Works and Urban Development (10%), Public Security (7%) and Street Lighting (4%). These findings align with global statistics. However, the Treasury Department is an exception as it does not follow the trend. Moreover, the Purchasing and Acquisitions Department has been an area with more opportunities for women to advance in their careers. Meanwhile, the Public Lighting department, a crucial municipality area, is predominantly male dominated.

Graph 6. Women and Men Presence by Department
Municipal Public Administration (2021)

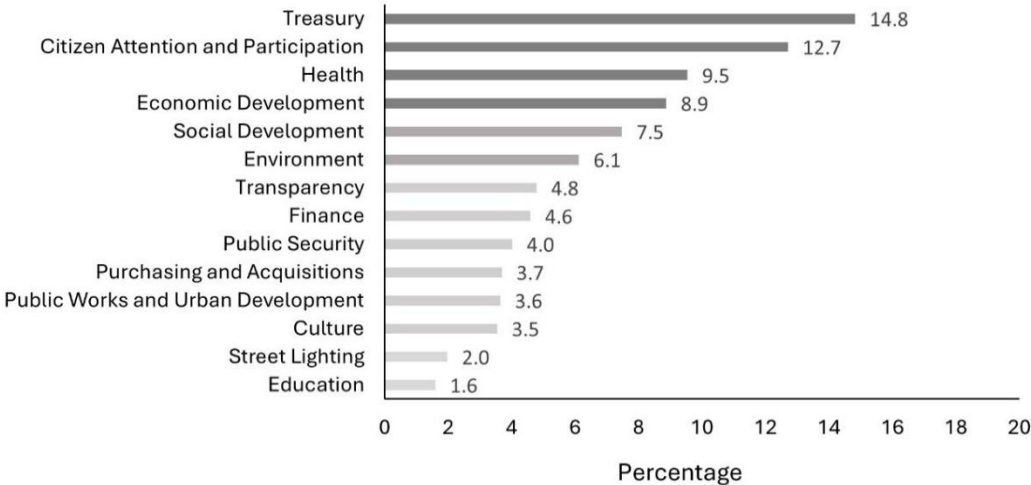


Source: Authors' elaboration based on NCMGTD.

Between 2015 and 2021, there has been a significant increase in the number of women holding positions in various public administration departments. Treasury, Citizen Attention and Participation, and Health Department have recorded the highest percentage increases of 14.8%, 12.7%, and 9.5%, respectively. Additionally, women's presence in Economic Development, Social Development, and Environment has grown by 8.9%, 7.5%, and 6.1%, respectively.

Women's participation has mainly increased in fields traditionally associated with women, such as Health and Citizen Attention and Participation. However, there has also been an increase in traditionally male-dominated areas, such as Treasury and Economic Development.

Graph 7. Increase in Women's Presence by Department
Municipal Public Administration (2015- 2021)

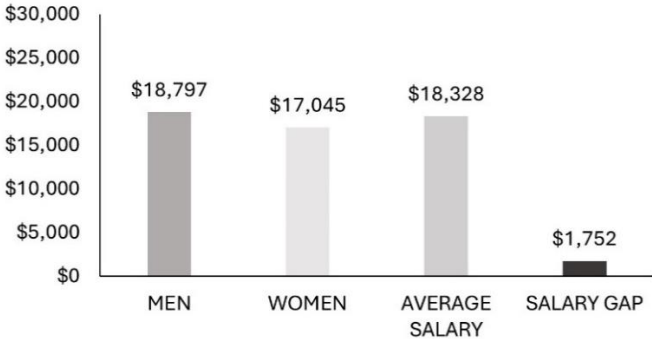


Source: Authors' elaboration based on NCMGTD.

1.3.4 Wage gap

To analyze the salaries of heads of municipal public administration, data from 2021 was considered to have the exact salary figures for this year. For other years, only salary ranges are recorded. Upon analyzing all departments in each municipality, it was found that there is a gender wage gap of \$1,752 MXP between men and women holding the highest hierarchical positions.

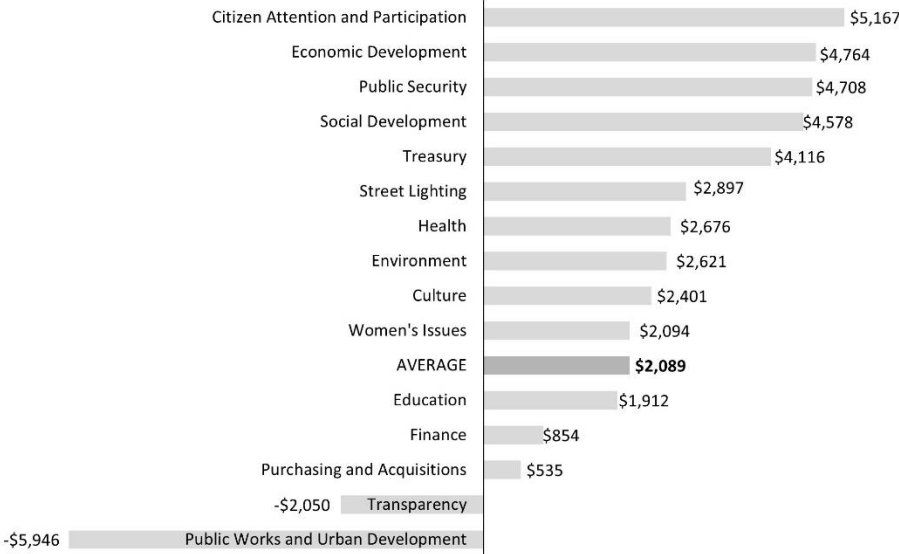
Graph 8. Average on salary gap
Municipal Public Administration (2015- 2021)



Source: Authors' elaboration based on NCMGTD.

The wage gaps are wider within the departments used to describe horizontal segregation below. On average, considering only these departments, the salary gap amounts to \$2,089 MXP. The graphical representation below illustrates the variations in the wage gap within each department and incorporates the "Women's Affairs" department.

Graph 9. The average salary gap
Municipal Public Administration (2021)



Source: Authors' elaboration based on NCMGTD.

When analyzing salary discrepancies by department, it is evident that most areas exhibit wage gaps, irrespective of whether women predominantly perform the work. Even in the Women's Issues Department, there is a \$2,094 pay gap in favor of men. The most significant wage gap is observed in the Citizen Attention and Participation department, which has a higher proportion of female employees than in other areas. This is followed by the Economic Development, Public Security, Social Security, and Treasury departments. However, it is important to note that the Transparency, Public Works, and Urban Development departments have a wage gap that favors women.

CONCLUSIONS

This study highlights persistent gender inequalities in Mexico's municipal leadership. Drawing on bureaucratic representation theory, the research emphasizes the crucial role of diversified

bureaucracies in achieving social equity through public administration. The analysis unfolds across three dimensions: horizontal segregation, vertical segregation, and the wage gap, revealing significant and ongoing disparities in women's participation in leadership roles.

Mexico's municipal governments, responsible for addressing public problems and formulating policies, exhibit substantial variations in women's representation across municipalities. While the overall gender gap in municipal public administration has slightly decreased by 10% from 2015 to 2021, women hold only 27% of top positions as of 2021, indicating persistent vertical segregation. Notable discrepancies exist among municipalities, with some showcasing high female representation exceeding 70% and others lagging at less than 10%. These variations underscore the fragmented progress in achieving gender parity at the local level.

Examining the age and education of women in top-level management positions, the study finds that women are not only slightly younger (average age of 38) than their male counterparts but also better educated, scoring 0.3 points higher on average in educational attainment. However, despite these positive indicators in age and education, the challenges of vertical segregation persist.

The analysis of horizontal segregation reveals substantial variations in women's representation across different departments. While some departments have up to 40% female representation (e.g., Health, Citizen Attention, and Participation), others, like Street Lighting, Public Works and Urban Development, and Public Security, have much lower representation (11% or less). Notably, since 2015, there has been a rise in women's participation in traditionally male-dominated areas such as Treasury and Economic Development. However, these advancements do not yet reflect parity.

The gender wage gap remains a critical concern, with a disparity of \$1,752 MXP between men and women holding top hierarchical positions. Even more pronounced is the average wage gap across specific departments, which is around \$2,088 MXP, emphasizing the need for targeted and department-specific interventions. The wage gap persists across almost all departments, including the "Women's Affairs" department, which surprisingly shows a gap of \$2,094 MXP

in favor of men, underscoring the pervasive nature of salary discrepancies in municipal public administration.

In summary, despite some progress, municipal bureaucracies in Mexico continue to exhibit low representation of women, particularly in leadership positions and traditionally male-dominated departments. It is important to note that even in roles commonly associated with women (e.g., Culture, Social Development, Education), women do not make up 50% of top-level managers. Furthermore, the pay gap is evident in almost every department, with unanticipated variations that require further investigation. The fact that even the "Women's Affairs" department has a wage gap favoring men highlights the need to examine the underlying factors contributing to these discrepancies.

To better understand these inequalities, future research should delve into the conditions shaping the participation of women in both highly representative and underrepresented contexts. Identifying cases with wider gaps and those with smaller gaps can provide insight into best practices and barriers. Such an approach is essential to develop strategies that effectively increase women's presence and fair compensation across all municipal departments.

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2. WOMEN PROMOTING WOMEN? EXPLORING GENDER REPRESENTATION IN LOCAL BUREAUCRACY

ABSTRACT

This study explores why some governments have more women in their bureaucracy than others (passive representation). Drawing on the literature on top-down representation and employing an original panel dataset with fixed effects models, the findings suggest that the presence of a female mayor increases the chances of hiring other women for top-level management positions. Furthermore, having more women in higher-level management roles increases the likelihood of having more women in public administration overall. The article also considers the concept of critical mass as a contextual factor. According to this, the results show that when more women are present in the city council, there is a greater chance of hiring more women as a contagion effect.

Keywords: Representative bureaucracy, top-down representation, gender, critical mass, Mexico

RESUMEN

Este estudio examina por qué algunos gobiernos cuentan con una mayor presencia de mujeres en su burocracia que otros (representación pasiva). Basado en la literatura sobre representación de arriba hacia abajo (*top-down*) y usando una base de datos original panel con efectos fijos, el trabajo plantea que la presencia de una alcaldesa aumenta las probabilidades de contratar a otras mujeres para ocupar cargos de alto nivel. Asimismo, contar con un mayor número de mujeres en posiciones de titularidad incrementa se asocia positivamente con un mayor número de mujeres contratadas dentro de la administración pública en general. El artículo también aborda el concepto de masa crítica como un factor contextual; los resultados demuestran que, al existir una mayor presencia femenina en el ayuntamiento, se genera un efecto de contagio que facilita la contratación de más mujeres.

Palabras clave: Burocracia representativa, representación vertical, género, masa crítica, México.

INTRODUCTION

The presence of women in public agencies is an increasingly important subfield of bureaucratic representation research. This branch of literature has analyzed how women's presence in bureaucracy promotes female interests in the policy-making process (active representation) (Bishu & Kennedy, 2019; Park & Liang, 2019; An, Song & Meier, 2022). It also has described how the numerical presence (passive representation) of women has increased in bureaucratic agencies (Bowling et al., 2006; Chudnovsky, 2020; Gidengil & Vengroff, 1997; Moldovan, 2016; Smith & Monaghan, 2013). Nevertheless, there is still a lack of knowledge regarding the factors that explain the higher presence of passive women's representation. Indeed, we know little about what explains this representation in local public agencies. Understanding the reasons behind this will help us better comprehend the dynamics of representation in bureaucracy and address issues of equity and participation in the bureaucratic sphere.

If the theoretical considerations of representative bureaucracy started from the idea that women are generally more concerned with issues that affect them, it becomes essential to address these issues locally due to proximity to the population. However, unlike the federal or national levels, commonly, local governments lack a professional civil service structure, with hiring practices often based on political appointments and discretionary decisions rather than standardized merit-based processes (Chudnovsky & Castañeda, 2024). This adds complexity to understanding the factors influencing gender representation in local bureaucracy. This article examines the factors contributing to improving gender representation in bureaucracy. Specifically, it poses the question: Why do some local governments have more women in bureaucratic positions than others?

The main argument is based on existing literature highlighting women's top-down representation. It suggests that if there are more women in managerial positions, this will positively impact the representation of women at other hierarchical levels (Kurtulus & Tomaskovic-Devey, 2012; Matsa & Miller, 2011; Meier & Funk, 2016; Funk et al., 2017). Following these ideas, I propose two hypotheses. First, when a woman becomes a mayor, the number of women in senior management roles will likely increase. Second, having a higher number of women in top-level management positions is likely to have a positive impact on

overall gender representation in municipal public administration. This idea has been tested in other local government cases for gender representation, but not all government agencies of the municipality have been analyzed, and the results present mixed findings (Meier & Funk, 2016; Funk et al., 2017).

The present study also recognizes the interplay between individuals and organizations to shape behaviors using the critical mass concept (Meier & Xu, 2022). Critical mass refers to the idea that as the percentage of women in an organization increases, it affects the behavior of both female and male bureaucrats (Kanter, 1977). This occurs through a contagion effect where majority bureaucrats change their behavior due to the presence of minority bureaucrats (Meier & Xu, 2022). The study examines the municipal government as a whole organization and considers the composition of the city council to be crucial. The expectation is that a higher percentage of women in positions such as *síndicos* and *regidores* on the council will increase the likelihood of hiring more women at high levels and in general. According to the diversity management literature, contagion effects manifest due to interactions among diverse bureaucrats, diminishing stereotypes and enhancing communication and idea exchange (Groeneveld & Meier, 2022).

These theoretical expectations are examined in local governments using an original panel-type database with data from 2013 to 2021 obtained from the National Census of Municipal Governments and Territorial Districts. The research focuses on two types of gender representation: 1) the number of women occupying top-level management positions in each municipality and 2) the overall percentage of women in the municipal bureaucracy.

In the following section, I review the progress and gaps in the literature on female representation in bureaucracies and highlight the importance of investigating the factors that promote women's numerical representation in bureaucracies. Then, I discuss the literature on top-down representation as an alternative to explain why some bureaucracies have more women than others. The following section describes why adding critical mass to the analysis is essential. Next, I describe the research context and how Mexican municipal bureaucracies can be effectively utilized.

2.1 WE HAVE TO TALK ABOUT WOMEN'S PASSIVE REPRESENTATION

The theory of representative bureaucracy suggests that bureaucrats' origins and backgrounds influence the values and actions they adopt in their roles, consciously or unconsciously (Mosher, 1982). Including minority or vulnerable populations in the bureaucracy would benefit the interests of those represented (Mosher, 1982; Bradbury & Kellough, 2011). There are two primary forms of representative bureaucracy: passive and active representation. Passive representation refers to the identities and characteristics that public servants share with the society they serve, such as gender, religion, class/income, and race (Kingsley, 1944; Kennedy, 2014). Active representation occurs when bureaucrats' identities shape their values and actions, allowing them to serve the interests of the groups they represent in the policy process (Bradbury & Kellough, 2011; Mosher, 1982). More recently, researchers have begun to study symbolic representation, which occurs when a passively represented bureaucracy's mere existence can translate into benefits for the citizenry without any action taken by bureaucrats. For example, when bureaucrats create a sense of trust and legitimacy from the clients' perspective (Ricucci & Van Ryzin, 2017, p. 25; Bishu & Kennedy, 2020) or lead to the improvement of the coproduction of public services (Ricucci et al., 2016).

The theory of representative bureaucracy suggests that public administrations should promote greater inclusion of women in public administration to seek gender equality in modern societies. Studies have focused on whether and how women in bureaucracy act or contribute to benefiting their clientele, examining the link between passive and active representation (Bishu & Kennedy, 2019; Park & Liang, 2019; An, Song & Meier, 2022). The presence of women in public agencies has been shown to favor the interests of women in different policy areas, such as improving the academic outcomes of female students (Dhillon & Meier, 2020), especially in mathematics (Keisser et al., 2002; Zhang, 2019); increasing the number of reports of sexual assault and arrests for sexual assault (Meier & Nicholson-Crotty, 2006); increasing domestic violence arrest rates (Andrews & Miller, 2013), and providing benefits to women from child support programs (Wilkins & Keiser, 2004). The evidence has also shown that the link between passive and active representation in terms of gender seems to occur when the policy area directly benefits women as a group, the policy area is gendered (Meier, 1993b), bureaucrats at the street level have broad

discretion (Keiser et al., 2002), or when bureaucrats can influence the actions of the public organization (Dolan, 2000; Atkins & Wilkins, 2013).

Passive representation has received less attention. Most of the research has focused on the progress of women in terms of numerical advancement over time (Gidengil & Vengroff, 1997; Bowling et al., 2006; Smith & Monaghan, 2013; Anestaki et al., 2016; Moldovan, 2016; Chudnovsky, 2020), and some others consider it into the analysis only as a necessary condition for active (Seung-Ho et al., 2022; Bishu & Kennedy, 2019) or symbolic representation (Ricucci, Van & Lavena, 2014; Riccuchi, Van & Li, 2016; Xiaoyang & Meier, 2021). Recently, some studies have analyzed why some governments have more women than others. These studies explain the differences in hiring and promotion practices between male and female mayors, which will be described in the following section.

2.2 ASCENDING EMPOWERMENT? A TALE OF TOP-DOWN REPRESENTATION

Some studies have explored the concept of top-down representation related to municipal job composition. Dye & Renick (1981), Eisinger (1982), Stein (1986), and Mladenka (1989) focused on local factors to explain minority representation in the regional workforce. Their primary finding was that the size of the minority population in a city significantly influenced workforce inclusion. However, scholars also noted the importance of the mayor's identity (Eisinger, 1982; Stein, 1986) and the composition of the municipal council as facilitating factors (Dye & Renick, 1981; Mladenka, 1989). While these early studies centered on the representation of Black and Hispanic citizens, the role of gender was not explicitly addressed.

Over time, research on top-down representation has increasingly paid attention to gender dynamics. Evidence suggests that having more women in managerial positions positively influences the representation of women at subsequent hierarchical levels. Studies on U.S. corporations reveal a correlation between the percentage of women on boards of directors and the percentage of women among top executives (Matsa & Miller, 2011). Furthermore, firms with more women in top management tend to see increased female representation in mid-level managerial positions (Kurtulus & Tomaskovic-Devey, 2012). Similarly, in politics, female party leaders are more likely to recruit female candidates (Crowder-Meyer, 2013). In the context of

congressional bureaucracy, female leaders have been found to increase the recruitment of women; however, this effect does not always extend to senior staff positions (Clark & Félix, 2014).

Gendered political networks may partly explain these patterns. Women in politics often exhibit gender homophily—a tendency to interact more frequently with other women than their male colleagues do (Crowder-Meyer, 2013). This tendency is driven by shared interests related to gender and the establishment of trusting relationships among similar individuals (Kanter, 1977; McPherson et al., 2001). Given the male-dominated nature of political environments, most networks are primarily male. Nevertheless, women tend to have more female contacts to draw upon when hiring for their teams (Alberti et al., 2021; Reyes-Housholder, 2016). Another causal mechanism for gender differences in hiring is the exclusion women often face throughout their political careers. This exclusion not only raises awareness about gender disparities but also motivates female leaders to actively improve conditions for women (Funk et al., 2019).

In the executive branch bureaucracy, the presence of women in leadership positions has improved through the influence of other women, derived from conscious decisions or not. In Latin American contexts, there is evidence of a positive relationship between female executive representation and increased female representation at feeder levels to executive positions (Gould et al., 2017). Moreover, women's political representation has been associated with greater gender equality in public employment. For instance, in Chile, female mayors have been shown to increase the proportion of female employees within municipal bureaucracies (Alberti et al., 2021). Similarly, in Brazil, Funk and Meier (2017) found that female mayors, vice-mayors, or a higher percentage of women in the city council led to increased female representation in top positions within public health agencies. However, in contrast, another study within the same Brazilian context found that mayoral gender was not statistically significant in explaining women's representation in the executive municipal bureaucracy (Funk, Silva, & Escobar-Lemmon, 2017)

This recent evidence underscores the distinctive dynamics of local governments, particularly in developing countries where mayors often have significant discretion over administrative hiring.

In Latin America, mayors possess political authority and key administrative responsibilities, wielding strong leadership overseen by an elected council (Avellaneda, 2009). Given the context of this study, it is crucial to investigate whether the presence of women in political leadership roles reduces vertical segregation and improves women's access to senior management positions. Additionally, it is important to determine whether an increase in women in top management leads to broader female employment within local bureaucracies. The hypotheses to be tested are the following:

Hypothesis 1a: Women elected as mayor increase the presence of women in top-level public management positions.

Hypothesis 1b: Women in top-level public management positions increase the overall presence of women in public administration.

Following the expectations of top-down representation theory allows us to suggest that women elected as mayors are likely to prefer to interact with women at lower levels within the bureaucratic hierarchy. At the same time, women in top-management positions (the head of the municipal agencies) would prefer having more women in the agencies they manage. These managers hold significant influence over other appointments made within their respective departments. This research also considers other actors within the council that may shape the behavior of the mayor, which we will explore next.

2.3 CRITICAL MASS: NUMBERS SPEAK LOUDER

Kanter (1993) introduced the concept of critical mass, which suggests that a minority group can enhance their status by increasing their representation within specific organizations. Initially, Kanter indicated that a minimum representation of 30% was necessary for the minority group to reach the critical mass. However, the concept has since been reformulated to emphasize that any relative increase in the minority group's representation can initiate changes in their favor. This idea has been widely applied in the literature on women's political representation. The most common assumption is that as women grow more numerous in legislative chambers, they will increasingly be able to form strategic coalitions with one another to promote legislation related

to women's issues (Sain-Germain, 1989; Dahlerup, 1993). The number of women may influence both male and female legislators to pay more attention to women's issues (Braton, 2005).

Critical mass has also been explored in the context of bureaucratic representation (see Meier, 2018; Meier & Xu, 2022). Critical mass refers to the presence of a minority group within an organization, which can impact the behavior of other bureaucrats. The essential influence of mass can affect bureaucrats who share common characteristics as a group, such as gender, ethnicity, age, and social class, as well as those with different identities (non-representative bureaucrats). In the first case, a critical mass could be significant because a set of bureaucrats will tolerate decisions that are unconventional or deviate from the average (Meier & Xu, 2022) (such as selecting more female managers). In the second case, a contagion effect may occur, whereby the critical mass influences another group of non-representative bureaucrats. The contagion effect is explained by the communication and exchange of ideas that takes place between bureaucrats of different types (Meier & Xu, 2022) and is closely related to the concepts of social psychology that suggest contact between minority and majority groups can reduce perceptions of dissimilarity and stereotypes (Raaphorst & Groeneveld, 2019).

Based on these interactions proposed between individuals and the municipality as an organization, the following hypotheses are proposed:

Hypothesis 2a: A more significant percentage of women within the city council increases the presence of women in top-level public management positions due to the contagion effect.

Hypothesis 2b: A more significant percentage of women within the city council increases the presence of women in municipal public administration in general due to the contagion effect.

2.4 THE LOCAL BUREAUCRACY IN THE MEXICAN CONTEXT

Mexico is a decentralized country with three levels of government (Federation, federal entities, and municipalities). Municipal governments in Mexico are responsible for defining public

problems, choosing the appropriate action mechanisms, defining government policies and programs, and evaluating the results of their actions (Arellano et al., 2011, p. 36). Mexican municipalities vary, at least in capacity, resources, level of development, and size. Some places in Mexico have practically all the essential public services their population requires. In contrast, others, such as rural municipalities or those with an indigenous population, lack crucial services such as water and hospitals (Arellano & Cabrero, 2011). Of the total municipalities, 5.2 percent are urban, 54.9 percent are intermediary, and 39.9 percent are rural. However, 51.4 percent of the Mexican population lives in urban areas.

The country ranked third in Latin America in women's political representation at the federal level since women held 40.58 percent of the Congress in 2015¹. Furthermore, at the beginning of 2021, the Federal Congress materialized the principle of parity by reaching 50 percent of women in the Chamber of Deputies (250 deputies out of 500) and 51 percent in the Senate (65 senators of 120)². The presence of women in the federal bureaucratic sphere is quite different. The number of women in public employment has been increasing. Women's presence in federal bureaucracy decreases to the extent that their position and income level rise (Chudnovsky & Castañeda, 2023). At the municipal level, data reveals that women hold an average of 30 percent of top-management positions. However, while some municipalities have achieved a representation of up to 70 percent, others have only reached as low as 10 percent³.

The council is responsible for exercising the functions of the Municipal Government, which is the closest to the population. This local organization, led by the mayor, consists of regidores and síndicos, each with distinct roles and democratically elected. The mayor is the highest executive authority in the municipality and is elected for a three-year term, with the possibility of being reelected for consecutive terms. The number of regidores and síndicos varies in each municipality according to local laws and regulations. They have different functions within the council. Síndicos primarily oversees and audits the management of the municipality's financial resources, ensuring transparency and compliance with financial regulations. They are crucial in safeguarding public funds and ensuring their responsible allocation. On the other hand, regidores participate in decision-making processes, representing the interests of the community and contributing to the formulation and approval of policies, programs, and projects that benefit

the municipality and its inhabitants. Additionally, regidores supervise the work of the municipal president and various municipal government departments.

As a group, the council operates in council sessions where collective matters are discussed, and agreements are reached. Subsequently, the municipal president is responsible for executing the agreements. The process of appointing area directors may vary depending on local regulations. Mayors can generally appoint and remove high-ranking officials, but in some cases, council approval is required. Professionalization of public service still needs to be adopted as a deliberate and stable policy at the municipal level. Most hiring is based on trust, loyalty, and closeness with municipal presidents, resulting in a high turnover of management positions (Arellano et al., 2009; Merino, 2006).

In 2019, a constitutional reform known as "Transversal Parity" was enacted to establish gender parity in the appointments of office secretariats in the Federal Executive Branch and their equivalents in the federal entities. This reform also required municipal governments to follow the principle of parity in their appointments. This is the first affirmative action that has had an impact at the municipal level and local bureaucracies in Mexico, with some federal entities already establishing parity for municipal councils. The data analyzed in this document is from the 2021 census, but the information presented corresponds to the previous year, 2020. Thus, the effects of the "transverse parity" principle may not yet be visible.

For several reasons, Mexican municipalities make a valuable case for examining these hypotheses proposed. First, many municipalities (2,446) in Mexico have facilitated large-scale statistical analyses holding other variables constant. Second, the representation of women in elected positions and public administration differs between observation units, providing sufficient variation between the variables of interest. Entities such as Durango, Oaxaca, Puebla, and Veracruz have municipalities with more than 70% women as heads of public administration. Instead, Coahuila, Guanajuato, Jalisco, Nuevo León, and, again, Puebla have municipalities where incumbent women represent less than 10 percent of the total in public administration.

2.5 DATA AND METHOD

I constructed an original database using various public sources to examine women's bureaucratic representation. The empirical data for the analysis was mainly obtained from the Census of Municipal Governments and Territorial Demarcations of Mexico City⁵. This database provided the data for both dependent variables - the representation of women in top-level management positions and female employees overall. The National Municipal Information System database was used for the independent variable (women's political representation)⁶. Control variables were collected from sources such as the Census of Population and Housing, the database of Criminal Incidence from the Executive Secretariat of the National Public Security System, the measurement of poverty from the National Council for the Evaluation of Social Development Policy, and the catalog of the National Urban System (see Appendix 1). To create a balanced panel, some observations were excluded, leaving 1,909 observations for five periods (2013, 2015, 2017, 2019, and 2021).

This article makes use of two-way fixed-effects (2FE) panel regressions. First, since Mexican municipalities have significant heterogeneity, using unit-fixed effects allows us to adjust for unobserved time-invariant confounders among municipalities. Secondly, one must consider invariant time differences when estimating panel data using the fixed effect model. A two-way fixed effects model (2FE) allows simultaneously solving the problem of omitted variables that do not change with time but change with individual and do not change with individual but with time (Zhou et al., 2021, p. 8820). Finally, the Hausman test showed that the fixed effect model was better than the random (see Appendix 3, Hausman test P-value).

Dependent variables

In the four hypotheses, we use two dependent variables to measure the different levels of bureaucracy representation. The first is women top-level managers, calculated as the percentage of each municipality's total in this position. This position is at the top of the hierarchy of each institution within the municipal public administration. Women who occupy this position are very few, but there is variation. On average, 27.36% of bureaucrats in the highest hierarchy were women during 2013–2021. Around 6.2% of municipalities had more than 50 percent of their managers occupied by women, and 60% had less than 30 percent.

The second dependent variable is the representation of women in the global municipal bureaucracy, calculated as the percentage of employed women concerning the total number of employees in municipal public administration⁷. During the analysis period, an average of 32.24% of bureaucrats were women. On average, 6.6% of municipalities employed 50 percent or more women in their public administration, while 40% had less than 30 percent of women hired.

Independent variables

For hypothesis 1a, the independent variable is the mayor's gender, and it was coded as 0 if it is a man and 1 if it is a woman. Between 2013 and 2021, around 17% of municipalities were governed by women mayors. In 2015, 8% of municipalities had women mayors, and this percentage grew to 14.3% in 2017 and to 26% in 2021. For hypothesis 1b, the independent variable, women in top-level management positions, was calculated equal to the second dependent variable. Related to hypotheses 2a and 2b, the critical mass was coded as 0 if at least 40% of the council were women (síndicas and regidoras) and 0 if it was not.

Control variables

The variations of Mexican municipalities in size, employment rates, urbanization, and development could affect gender representation in bureaucracy. Thus, the control variables are municipal population (log-transformed), percentage of poverty, female labor participation rate, percentage of poverty, and size of the bureaucracy. The size of the bureaucracy is a count of the number of bureaucrats in each municipality per 1000 residents. He ranges from less than 1 to 81.975 bureaucrats per 1000 residents, averaging 15.396. I also consider the criminal incidence rate because it could affect women's political and bureaucratic participation. This variable rate considers only violent crimes per 1000 residents and ranges from 0 to 2,664.1 crimes per 1000 residents, with an average of 73.76. The National Urban System catalog also identified the most urbanized municipalities. This system includes a group of cities with 15 thousand or more inhabitants, which are functionally related, and it is made up of 384 towns classified into metropolitan areas, conurbations, and urban centers. It was codified as 0 if the municipality does not belong to the system, and it was codified as 1 if it belongs. Political considerations include

re-election. Mexican mayors can serve a maximum of two consecutive 4-year terms since the electoral reform in 2014. Based on these changes in the electoral law, each federal entity has had to adapt its Constitution and secondary laws to establish its own local rules to materialize the reelection in their demarcations. It was not until the 2018 elections that some mayors managed to be reelected. I code as 1 if the mayor has been reelected and 0 if it is not. Some research has identified that those in their second term will have more time to shape the bureaucracy (Funk et al., 2017). Literature also indicates that there could be differences between parties of the right and left related to the promotion of women's interests (Bryson & Heppell, 2010). Still, Mexican municipalities are characterized as being governed by electoral coalitions where various ideologies are mixed (see Paoli, 2012), so this variable is not considered for the analysis. Instead, the study distinguishes between a government that won in a coalition, or a mayor elected through a single party. Where 0 means that a single party governs, and 1 refers to coalitions in the government. Finally, I included a variable indicating the mayor's term year (first year=1; other years=0). Descriptive statistics are provided in Table 1.

Table 1. Variable names and summary statistics

| Variables | Mean | SD | Min. | Max. | N |
|---|--------|-------|------|-------|-------|
| Dependent variables: | | | | | |
| % Women at top level-management bureaucracy | 27.32 | 13.14 | 0 | 88.9 | 9,545 |
| % Women bureaucrats | 32.56 | 11.60 | 0 | 100 | 9,545 |
| Independent variables: | | | | | |
| Sex of the mayor (0= M; 1= F) | - | - | 0 | 1 | 9,545 |
| Critical mass | - | - | 0 | 1 | 9,545 |
| Control variables: | | | | | |
| First-year on charge | - | - | 0 | 1 | 9,545 |
| Reelection | - | - | 0 | 1 | 9,545 |
| Bureaucracy size | - | - | 0 | 1 | 9,545 |
| Female labor participation rate | 29.51 | 12.67 | 0 | 1 | 9,545 |
| % Poverty | 60.099 | 20.26 | 2.7 | 99.6 | 9,545 |
| Population | 9.811 | 1.40 | 5.89 | 14.47 | 9,545 |
| Urbanization | - | - | 0 | 1 | 9,545 |
| Crime incidence rate | 0.738 | 1.255 | 0 | 26.64 | 9,545 |

Source: Authors' elaboration.

2.6 EMPIRICAL ANALYSES AND RESULTS

Table 2 presents three models for analyzing the bureaucratic representation of women in top-level positions. The first model includes two primary independent variables: 1) whether the mayor is female and 2) whether a critical mass of women exists within the organization. The second model incorporates variables from the political context, while the third model adds sociodemographic factors of the municipalities. Throughout all models, the study maintains a consistent proposition: a higher number of women hold top management positions when a female mayor is in office and when there is a more significant number of women within the council.

Additionally, the study notes that the commencement of tenure often coincides with hiring more women in high-level positions. The municipalities' governing through a political coalition is also associated with an increase in the proportion of women in top-level management positions. Furthermore, a higher poverty level in municipalities is linked to a decreased proportion of women in top-level management positions. The interaction between urban areas and a female mayor suggests that an increase in urbanization alongside a female mayor leads to an increase in the proportion of women in top-level management positions.

Table 2. Explaining women's bureaucracy representation at a high level

| Variables | % Women in top-level management positions | | |
|--|---|-------------------------|--------------------------|
| | Model 1 | Model 2 | Model 3 |
| Mayor is female | 8.36 (0.457) *** | 8.22 (0.46) *** | 7.59 (0.511) *** |
| Critical mass within the council | 1.612 (0.372) *** | 1.52 (0.38) *** | 1.541 (0.376) *** |
| First-year on charge | | 0.882 (0.27) ** | 0.898 (0.269) *** |
| Coalition | | 1.190 (0.33) *** | 1.207(0.329) *** |
| Reelection | | 0.278 (0.76) | 0.120 (0.758) |
| Bureaucracies size | | 0.49 (0.01) * | -0.007 (0.008) |
| Female labor participation rate | | -0.006 (0.03) | 0.032 (0.031) |
| Poverty | | | -0.050 (0.024) * |
| Population | | | -1.045(1.798) |
| Urbanization | | | 0.49 (1.573) |
| Crime incidence rate | | | 0.107 (0.161) |
| The mayor is female ^x urbanization | | | 3.318 (1.073) ** |
| R ² | 0.063 | 0.066 | 0.069 |
| N | 9,545 | 9,545 | 9,545 |

Note. Two-way fixed-effects panel model. The cluster robust standard errors are in parentheses.

*p = .10 **p<.05. ***p<.01. ****p<.001.

Source: Authors' elaboration.

The results of Table 3, which examines the representation of women in municipal public administration, are consistent with the central argument of this document. Firstly, a statistically significant positive relation exists between the percentage of women in top-level management positions and the overall representation of women in the bureaucracy. This suggests that a higher representation of women in leadership roles is associated with a more significant presence of women throughout the municipal administration. Additionally, the presence of a critical mass of women within the organization also indicates a positive association with the overall representation of women in municipal public administration. This implies that when many women are in the workforce, there tends to be a higher overall representation of women in the bureaucracy.

Table 3. Explaining women's bureaucracy representation in general

| Variables | % Women in municipal public administration overall | | |
|--|--|--------------------------|--------------------------|
| | Model 1 | Model 2 | Model 3 |
| % Women in top-level management positions | 0.12 (0.011) *** | 0.119 (0.011) *** | 0.119 (0.011) *** |
| Critical mass within the council | 1.21 (0.283) *** | 1.206 (0.287) *** | 1.242 (0.288) *** |
| Mayor is female | | 0.358 (0.365) | 0.379 (0.405) |
| First-year on charge | | 0.186 (0.232) | 0.176 (0.232) |
| Coalition | | -0.009 (0.259) | -0.041 (0.259) |
| Reelection | | 0.138 (0.647) | 0.026 (0.648) |
| Bureaucracies size | | 0.032 (0.018) | 0.032 (0.019) |
| Female labor participation rate | | | 0.012 (0.025) |
| Poverty | | | -0.011 (0.023) * |
| Population | | | 1.631 (1.847) |
| Urbanization | | | 1.190 (1.189) |
| Crime incidence rate | | | -0.301 (0.161) |
| The mayor is female ^x urbanization | | | -0.366 (0.707) |
| R ² | 0.024 | 0.026 | 0.027 |
| N | 9,545 | 9,545 | 9,545 |

Note. Two-way fixed-effects panel model. The cluster robust standard errors are in parentheses.

·p = .10 *p<.05. **p<.01. ***p<.001.

Source: Authors' elaboration.

The mayor's gender does not significantly impact the overall representation of women in municipal public administration. This means that the sex of the superior hierarchy is the main factor, consistent with top-down representation. Other variables, like the presence of political coalitions and the size of the bureaucracies, do not show significant relationships with the

overall representation of women in municipal public administration. However, factors such as poverty levels and crime incidence rates demonstrate statistically substantial negative associations, indicating that higher poverty levels are associated with lower overall representation of women in the municipal bureaucracy. Finally, a larger bureaucracy size is positively associated with a higher percentage of female representation in the workforce. Although the models in Table 3 explain a modest proportion of the variance in women's bureaucracy representation, the main argument of this document is that the gender of the superior hierarchy and the critical mass of women in the organization are the primary factors that explain female bureaucratic representation.

DISCUSSION AND CONCLUSIONS

This research provides empirical support for the propositions based on the theory of top-down representation and critical mass. It highlights differences in the hiring patterns for men and women, ultimately impacting the composition of bureaucracies. The isolated effect of having a female mayor is associated with a higher representation of females in executive positions. At the same time, the executive representation of females is related to the bureaucratic representation of women in general in municipalities. Additionally, this research examined the representation of women in municipal bureaucracy, considering the influence of other actors within the organization: the council. The council acts as a critical mass capable of exerting influence on the decision-making of others by reducing perceptions of dissimilarity and stereotypes. While the council does not have a determining role in hiring, the findings indicate that a higher representation of women in the council leads to more women being hired in upper bureaucratic positions. This phenomenon could stem from the council's indirect impact on the mayor's decision-making or its role in expanding job-seeking networks for women. However, these hypotheses warrant further empirical testing in future studies. The findings emphasize the significance of understanding the relationships between various levels and types of representation within organizations. The findings hold relevance beyond the Mexican context, serving as a framework for understanding how female representatives can advocate for gender diversity within bureaucratic structures, especially when dealing with contexts where professionalization and affirmative measures are nearly non-existent. Furthermore, our findings underscore the imperative of bridging the gap between political representation and bureaucratic

composition. Politicians have the potential to champion more inclusive bureaucracies and internal policies that benefit all employees. In conclusion, this study underscores the multifaceted nature of gender representation within municipal bureaucracies and the pivotal role of top-down leadership and critical mass dynamics. By further exploring these dynamics, policymakers and organizational leaders can work towards creating more equitable and inclusive workplaces.

NOTES

¹ These estimates are from The Mexican Institute for Competitiveness, [Paridad de Género en el Poder Legislativo \(imco.org.mx\)](http://imco.org.mx) (December 10, 2018).

² These data are publicly available. The data of the deputies of the Mexican federal congress: <https://web.diputados.gob.mx/inicio/tusDiputados>, The data of the senators of the Mexican federal congress are here: <https://www.senado.gob.mx/65/senadores/genero>

³ Data on women's representation in local bureaucracies are publicly available from the National Institute of Statistics and Geography of Mexico, <https://www.inegi.org.mx/programas/cngmd/2021/>

⁴ These estimates are from The National Council for the Evaluation of Social Development Policy (CONEVAL, by its acronym in Spanish), which proposed classifying the municipalities as rural, interface, and urban-based on demographic, economic, social, and infrastructure variables.

⁵ This census has been taken every three years since 2011.

⁶ This refers to the data of hypothesis one. For the second hypothesis, the Census was used for the independent variable (representation of women at top-level management) and the dependent variable (representation of women in the global municipal bureaucracy).

⁷ Bureaucrats who held unionized positions were not considered because these positions remain over time and cannot be dismissed as easily.

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APPENDICES

Appendix 1. Variables and sources

| Variables | Sources |
|---|--|
| Dependent variables: | |
| % Women at top level-management bureaucracy | Census of Municipal Governments |
| % Women bureaucrats, in general | Census of Municipal Governments |
| Independent variables: | |
| Mayor's gender | National Municipal Information System |
| % Women at top level-management bureaucracy | Census of Municipal Governments |
| Control variables: | |
| First-year on charge | National Municipal Information System |
| Coalition | National Municipal Information System |
| Reelection | National Municipal Information System |
| Bureaucracy size | Census of Municipal Governments |
| Female labor participation rate | Census of Population and Housing |
| Population | Census of Population and Housing |
| % Poverty | National Council for the Evaluation of Social Development Policy |
| Urbanization | National Urban System |

Source: Authors' elaboration.

Appendix 2. Explaining women's bureaucracy representation at a high level (Random effects)

| Variables | % Women in municipal public administration overall |
|---|--|
| % Women in top-level management positions | 0.12 (0.011) *** |
| Critical mass within the council | 1.21 (0.283) *** |
| Mayor is female | |
| First-year on charge | |
| Coalition | |
| Reelection | |
| Bureaucracies size | |
| Female labor participation rate | |
| Poverty | |
| Population | |
| Urbanization | |
| Crime incidence rate | |
| The mayor is female ^x urbanization | |
| R ² | 0.18 |
| N | 1,913 |

Note. The cluster robust standard errors are in parentheses.

*p<.05. **p<.01. ***p<.001.

Source: Authors' elaboration.

3. DOES WOMEN'S LEADERSHIP INFLUENCE THE ADOPTION OF CITIZEN PARTICIPATION MECHANISMS? ANALYZING MEXICAN MUNICIPALITIES

ABSTRACT

This paper advances understanding in two key fields: citizen participation in public management and women's leadership. Recognizing the critical role of leadership in enhancing citizen participation in government agendas, the research draws on social psychology literature that connects women's leadership styles to increased cooperation and a more democratic approach. The study examines whether female leaders are more likely to create opportunities for citizen engagement. Results suggest that women in top-level management positions are positively associated with adopting citizen participation mechanisms (CPMs). Instead, female mayors are more likely to promote citizen participation during periods of certainty, such as their first year in office and following re-election. Both leaders tend to implement lower-intensity CPMs, which involve less shared responsibility between citizens and the government.

Keywords: leadership styles, women's leadership, gender, citizen participation, Mexico.

INTRODUCTION

Citizen participation is widely recognized for its essential role in strengthening democratic values such as legitimacy, justice, and effective governance. It also provides a robust mechanism for addressing democratic challenges (Fung, 2006). Participatory governance reforms that successfully incorporate marginalized groups and diverse perspectives promote equality by empowering these individuals to advocate for their rights, access goods and services, and engage in decision-making processes (Fung, 2015). Moreover, tackling complex issues often requires collaborative efforts among multiple stakeholders, as no single entity possesses the full range of resources, knowledge, or credibility needed for effective problem-solving (Weber & Khademian, 2008, p. 341). The current discussion emphasizes the need to evaluate the quality of participatory initiatives, identify effective strategies for citizen engagement, and assess the level of active participation among citizens (Díaz & Ortiz, 2011).

A less explored topic is understanding the conditions under which certain governments integrate citizen participation into their public policy frameworks (Díaz & Ortiz, 2011). Existing literature often emphasizes successful case studies, highlighting innovative strategies and identifying their origins and key drivers. Among these drivers, leadership is widely recognized as a crucial element in the effectiveness and sustainability of participatory initiatives. Leaders who actively support citizen involvement typically have backgrounds in the social sciences or significant experience in civic organizations, which enhances their commitment to these processes (Parés et al., 2017; Font & Blanco, 2005; Manes-Rossi et al., 2021). Additionally, some studies focus on the importance of regulatory frameworks and the availability of human and financial resources as essential conditions for successful participation (Yetano et al., 2010; Díaz & Ortiz, 2011). However, empirical investigations that test these hypotheses across large datasets remain limited.

The main argument of this article is that the gender of leaders may influence the adoption and promotion of citizen participation mechanisms (CPMs), a dimension largely overlooked in previous research. Research in social psychology suggests that women are more likely to adopt interpersonal, democratic, and participative leadership styles (Eagly & Johnson, 1990; Eagly & Karau, 2002; Hoyt & Simon, 2024). These gendered tendencies in leadership could have

important implications for citizen engagement, as the styles typically associated with women may foster a more inclusive and participatory environment compared to their male counterparts, highlighting the need for further exploration in this area.

The relevance of this study is twofold. First, it enhances our understanding of the variables that promote citizen participation by incorporating empirical data on factors that have not been widely tested on a large scale. Second, it expands the literature on women's leadership. Most research on gendered leadership relies on subjective measures, such as self-reported perceptions from small samples (Funk, 2017, p. 66). This study takes a more empirical approach by using objective indicators to identify concrete leadership actions. This approach acknowledges that women's political preferences may not always translate directly into their leadership practices (Schwindt-Bayer, 2010). By analyzing the measurable impact of female leadership on citizen participation, this study moves beyond perception-based research to investigate tangible effects.

This study selects the context of local governments due to their role as a prime setting for fostering citizen participation experiences (Cabrero & Díaz, 2012; Font et al., 2010), which significantly impact citizens' daily lives through administrative functions and service delivery (Pina & Torres, 2001). Recognizing varying levels of engagement intensity, this paper draws on existing literature to reflect the complexity inherent in decisions to include citizens in governance. Such choices often signal a greater willingness among governments to share responsibilities and power (Canto, 2017; Díaz, 2017; Font et al., 2000). A multinomial model is applied to assess these intensity levels, differentiating between degrees of citizen participation. In line with theoretical expectations, female leadership is anticipated to encourage the adoption of citizen participation mechanisms and promote mechanisms with higher intensity levels.

As smaller government units, Mexican municipalities provide a unique context where local leaders can significantly influence citizen engagement in policymaking. This setting allows for robust statistical analysis while controlling additional variables. I developed an original dataset using the Municipal Government Census of Mexico and other relevant sources for this analysis. The study identifies two key actors in women's leadership: female mayors and heads of municipal administration. This selection is based on these individuals' discretionary decision-

making authority, enabling them to incorporate citizen participation within their areas of influence. Results suggest that women in top-level management positions positively impact the adoption of citizen participation mechanisms. Female mayors are more likely to promote citizen participation during periods of certainty, such as their first year in office and following re-election. Both leaders tend to implement lower-intensity CPMs, which involve less shared responsibility between citizens and the government.

The document is organized as follows. First, it explores the role of leaders in promoting citizen participation, focusing on how leadership influences the adoption of participatory mechanisms. Second, it reviews the theoretical foundations of gender and leadership styles from a social psychology perspective. Third, the study examines two critical actors in Mexican municipalities: female mayors and department heads. It analyzes their distinct roles and interactions in promoting the availability of citizen participation mechanisms. Fourth, the methodology is outlined, including the data sources and analytical approach. Fifth, the results of the study are presented. Finally, the paper concludes by discussing the findings, their implications for public administration, and recommendations for future research.

3.1 THE ROLE OF LEADERS IN PROMOTING CITIZEN PARTICIPATION

Citizen participation is a process through which individuals and organized groups engage in decision-making on matters directly impacting their quality of life by utilizing available legal and regulatory mechanisms (Ziccardi, 1998). It represents an effort by citizens—who do not hold public office or formal governmental roles—to share in decision-making on issues that affect them, seeking to influence government actors and policies. This concept encompasses various forms of collective action, advocacy, or responses to government calls to impact public policy decisions (Díaz, 2017).

Several studies have shown the significant influence of leadership on both individual and organizational performance within public institutions (e.g., Jacobsen & Bøgh, 2015; Oberfield, 2014). In the literature on citizen participation, the role of leaders is also considered crucial to the success and sustainability of participatory processes. The presence or absence of politics will significantly influence whether participatory mechanisms are introduced and maintained

(Manes-Rossi et al., 2021). For instance, Parés et al. (2017) argue that the success of these processes often hinges on the commitment of specific members of the government who prioritize participation as a fundamental aspect of governance. These individuals often have backgrounds in social sciences or extensive experience in citizen organizations, which shapes their commitment to fostering participation (Font & Blanco, 2005).

Ideological motivations can significantly promote citizen participation, particularly in municipalities that have adopted democratic innovations and participatory processes. These initiatives are often more prevalent in areas governed by left-wing political parties, which traditionally emphasize the importance of public engagement and inclusive governance (Font & Blanco, 2005; Font et al., 2012). However, implementing these initiatives largely depends on the agency of individual leaders who champion these values within the local government structure. Additionally, those who support citizen participation may view it as a strategic tool to gain political support or improve governance, depending on their motivations and the specific context (Fung & Wright, 2001).

The effectiveness of citizen participation often reflects the qualities and motivations of the leaders who promote it. Beyond individual leadership qualities, how gender influences perceptions and expectations of leadership roles is equally critical. In recent years, social psychology has increasingly focused on understanding how gender shapes leadership styles and impacts outcomes, providing new insights into how gendered expectations influence participation and governance.

3.2 GENDER AND LEADERSHIP FROM A SOCIAL PSYCHOLOGY PERSPECTIVE

Gender, as a powerful social construct, fundamentally shapes how we interpret and organize our social world, serving as the primary lens through which we perceive it (Marin & Slepian, 2021). Social psychology has a long-standing interest in understanding the role of gender in social relationships and inequalities (Hoyt & Simon, 2024, p. 65). Although recent theoretical frameworks challenge the traditional binary perspective on gender, much psychological research continues to operate within this binary framework. Given the centrality of gender in our social

world, social psychologists have built an extensive body of literature to understand better how gender influences leadership outcomes and contributes to leadership disparities.

Consequently, differences in leadership styles between men and women are often analyzed through the lens of gender stereotypes. These stereotypes—widely shared cultural beliefs about men’s and women’s traits—shape our perceptions and expectations of their behaviors (Cuddy et al., 2007; Glick et al., 2004; Spence & Buckner, 2000). Often attributed to inherent traits influenced by biological sex differences (Eagly, 2013; Eagly & Wood, 2016), women are commonly associated with communal qualities such as caring, friendliness, altruism, and warmth (Fiske et al., 2007; Heilman, 2001), while men are more often seen as having agentic attributes like independence, competence, assertiveness, dominance, and confidence (Huddy & Terkildsen, 1993). Gender stereotypes serve descriptive and prescriptive roles, shaping workplace norms and expectations (Heilman, 2012). These stereotypes ultimately influence how leaders adapt to their roles and affect organizational behavior (Eagly & Karau, 2002; Eagly et al., 2003).

A substantial body of literature suggests that task-oriented leadership and interpersonal leadership styles are two approaches often influenced by gender expectations. Traditionally, men have been associated with task-oriented leadership, focusing on productivity, organization, and achieving specific objectives (Eagly & Johnson, 1990). This style aligns with conventional gender roles that depict men as more directive and focused on material achievements (Eagly & Johnson, 1990). On the other hand, women are often perceived as favoring an interpersonal leadership style, which emphasizes empathy, emotional support, and fostering a positive work environment. Female leaders are more likely to prioritize relationships and make decisions that enhance team cohesion, reflecting traditional gender roles that associate women with nurturing and managing relationships (Eagly & Karau, 2002).

Female leaders who adhere to an interpersonal leadership style are often evaluated more favorably because this style is congruent with social expectations of female behavior. However, when women adopt a task-oriented style, they may face resistance or be perceived as less effective due to the perceived incongruity between gender roles and leadership style (Eagly &

Karau, 2002). Although task-oriented and relationship-oriented leadership styles can be effective, women leaders tend to balance both styles better, employing a transformational approach that integrates both task and relationship orientations (Eagly et al., 2003). In contrast, transactional leadership is often discussed as a style more commonly associated with men. Transactional leadership is characterized by a straightforward exchange between leader and followers, where rewards are given for meeting specific objectives (Antonakis et al., 2003; Desvaux & Devillard, 2008; Eagly et al., 2003).

Other differences identified in the literature include that female leaders often tend to adopt a more democratic and participative leadership style compared to their male counterparts, who are more likely to employ a directive and hierarchical approach (Eagly & Johnson, 1990). Democratic and hierarchical leadership styles differ in the level of involvement they allow subordinates during the decision-making process (Eagly et al., 1992). Democratic leadership involves subordinates in decision-making, encouraging participation and collaboration, and allowing team members to express their opinions and contribute to final decisions. Women in leadership roles are likelier to engage their teams in decision-making and foster a collaborative environment (Eagly & Johnson, 1990; Eagly et al., 2003; Rosener, 1990).

Fox and Schuhmann (1999) compared male and female city managers in U.S. local government and found that women are more inclined to involve the community in the decision-making process, supporting the notion that female leaders tend to promote greater participation. Other evidence indicates that female mayors are more willing to reform the budgeting process, adopt more inclusive practices, and seek broader community engagement. Furthermore, female mayors are more likely than their male counterparts to acknowledge fiscal challenges and openly discuss potential changes in policy goals (Weikart et al., 2007). A study examining leadership perceptions among female executives in Latin America found that they perceive themselves as transformational and participative leaders, blending objectivity with empathy—qualities they consider advantageous in modern leadership (Cárdenas et al., 2014).

This evidence on gendered leadership behaviors may have significant implications for citizen participation. It suggests that the dominant leadership style among women could lead to more

excellent promotion of citizen engagement compared to their male counterparts. However, not all empirical findings align with these theoretical assumptions. Recent research has found that women in leadership positions within local governments in Brazil are not necessarily more participative than men. In a cross-sectional analysis, Funk (2015) investigated whether female leaders, such as mayors, were likelier than their male counterparts to establish participatory institutions, such as participatory budgeting and policy councils. The results indicate that, contrary to common expectations, gender alone does not always determine a leader's inclination to foster participatory governance.

3.3 MUNICIPAL LEADERSHIP: TWO KEY ACTORS IN MEXICAN MUNICIPALITIES

Mexico has a decentralized government of three levels: Federation, federal entities, and municipalities. Municipal governments are responsible for identifying public problems, selecting appropriate mechanisms for action, formulating government policies, and evaluating the outcomes of their actions (Arellano et al., 2011, p. 36). Additionally, they are entrusted with promoting citizen participation through mechanisms that allow residents to engage in decision-making processes that impact their communities.

However, the willingness of governments to share power with their citizens should not be taken for granted. In Mexican municipalities, many officials view citizen participation as an obstacle to effective administration, believing that it complicates their tasks by requiring them to share power and respond to citizen demands that may not align with government priorities. Although some officials recognize the potential of citizen participation to enhance policy legitimacy and effectiveness, the general lack of commitment and the perception of participation as an external imposition hinder its institutionalization. Consequently, participatory structures remain weak in many municipalities, either consultative or ineffective (Díaz & Ortiz, 2011).

This study focuses on two fundamental levels of female leadership in municipal governance: mayors and heads of municipal public administration departments. As the highest local executive authority in most Latin American countries, Mayors bear political and administrative responsibilities (Avellaneda, 2009). They hold substantial authority over designing and

implementing citizen participation mechanisms (CPMs) and influencing local policy. On the other hand, Municipal Department Directors, though having a more limited scope of action than mayors, exert significant influence in specific areas—such as social development or citizen participation—that directly affect the extent to which citizens engage in local governance. The data does not always specify the origin of these initiatives, suggesting that they could emerge from various departments, such as Social Development or Citizen Participation. This ambiguity underscores the importance of analyzing both roles, as each plays a crucial part in shaping participatory governance.

This study investigates the leadership practices of female mayors and heads of municipal departments to test the hypothesis that women’s leadership promotes more inclusive and participatory forms of governance than their male counterparts. While female leaders are often expected to adopt more democratic and collaborative approaches to leadership, this study will specifically examine whether these expectations lead to measurable differences in the promotion and intensity of CPMs.

The number of citizen participation mechanisms implemented refers to actions taken by local government entities to enable individuals to influence public affairs directly or indirectly through established participatory channels. Based on the theoretical assumption that female leadership is more oriented toward participation, I hypothesize that female mayors and high-level female bureaucrats are more likely to adopt CPMs.

H1: Female mayors and top-level female bureaucrats are more inclined to implement citizen participation mechanisms than their male counterparts.

According to the literature on citizen participation, the level of participation can be measured through different stages that indicate how much citizens are involved or the extent of power given to non-governmental entities (Díaz, 2017, p. 365). *The intensity* of citizen participation can range from the most superficial level, where citizens are mere spectators, to the most intense level (Canto, 2017; Díaz, 2017; Font et al., 2000). No stage within this continuum is considered superior to another, and it is rare for citizen empowerment to reach its maximum level;

generally, at best, it results in shared responsibility with authorities (Fung, 2006; Díaz & Ortiz, 2011). Without attributing normative implications, I expect that given women's typically inclusive and participatory leadership style. They will positively impact the adoption of CPMs that require greater collaboration or inclusion of citizens.

H2: Female mayors and top-level female bureaucrats promote higher-intensity citizen participation mechanisms than their male counterparts.

To explore the factors influencing the likelihood of female leaders implementing citizen participation mechanisms, this study introduces two additional variables to account for contextual conditions that may impact this dynamic. Evidence has shown that differences in leadership styles are particularly evident in high-stakes situations and under electoral pressures (Brollo & Troiano, 2016). Some analysis of gender differences suggests that women are generally more risk-averse than men (Byrnes et al., 1999; Charness & Gneezy, 2012; Bartels & Peterson, 2024). For instance, female leaders, particularly those in political roles, are often associated with lower levels of corruption and bribery (Dollar et al., 2001; Swamy et al., 2001). Given this risk aversion, it would be expected that women's leadership style would be more pronounced in periods of stability and certainty rather than in more turbulent times, such as pre-election and electoral years. Thus, a third hypothesis is proposed.

H3: Female mayors are more inclined to implement citizen participation mechanisms at the beginning of their administration.

Research also recognizes that electoral incentives significantly influence mayors' decision-making in policy implementation (Bello-Gomez & Avellaneda, 2022). However, this literature primarily focuses on male leadership styles, leaving the question of whether these incentives affect female mayors, similarly, especially given potential differences in leadership styles and risk aversion. Contrary to the pattern observed in male leadership, where re-election incentives, such as reelection, might lead to an increase in citizen participation mechanisms as a strategy to secure votes, female leaders might prefer to deploy their participatory leadership style after securing re-election rather than using it as a tactic to seek re-election.

H4: Female mayors are more inclined to implement citizen participation mechanisms after being re-elected for a second term.

3.4 DATA AND METHODS

I constructed an original panel database using various public sources (see Appendix A). The empirical data for the analysis was mainly obtained from the Census of Municipal Governments and Territorial Demarcations of Mexico City (CMGTDM). The analysis included all the municipalities in Mexico except those governed by traditional customs and practices during 2020 and 2022. For several reasons, Mexican municipalities make a valuable case for examining the hypotheses proposed. First, the high number of observation units (municipalities) facilitated large-scale statistical analyses holding other variables constant. Second, the representation of women in elected positions and public administration differs between municipalities, providing sufficient variation between the variables of interest.

Dependent variables

Citizen Participation Mechanisms Implemented

The first hypothesis explores whether the leadership style of female mayors or bureaucrats promotes citizen participation. The data shows that in 2020, approximately 43% of municipalities did not implement any CPMs, about 23% utilized only one mechanism, and around 34% adopted two or more. By 2022, there was a significant shift: the percentage of municipalities not using any mechanisms decreased to around 26%, those employing one mechanism remained steady at about 25%, while the most substantial increase was in municipalities using two or more mechanisms, which rose to nearly 49%. This change reflects a positive trend in adopting CPMs, showing that more municipalities actively engage their citizens through multiple mechanisms in 2022 compared to 2020.

Municipalities reported between 0 and 70 citizen participation mechanisms. However, a dichotomous variable was created due to significant variability in these reports and the identification of numerous inconsistencies, errors, and discrepancies in the census data. This variable was defined as follows: 0 indicates no citizen participation mechanism was adopted, while 1 indicates that at least one mechanism was adopted. This approach was taken to

standardize the analysis and mitigate the impact of potential data accuracy issues, overreporting, or misclassification.

While this approach reduces variability between municipalities, it enhances the reliability of the measurement by minimizing the influence of erroneous entries and irregular reporting practices. Given the data quality issues, this method allows us to focus on the presence or absence of participation mechanisms as a more dependable indicator of citizen engagement. Figure 1 illustrates the distribution of municipalities in Mexico based on the dichotomous variable, displaying the percentage of municipalities that implemented at least one citizen participation mechanism (coded as 1) compared to those that implemented none (coded as 0).

Table 1. Distribution of Municipalities by Adoption for CPMs

| Year | 0= No Adoption | 1= Adoption | Total |
|-------|----------------|-------------|-------|
| 2020 | 805 (43%) | 1,082 (57%) | 1,887 |
| 2022 | 491 (26%) | 1,396 (74%) | 1,887 |
| Total | 1,296 (34%) | 2,478 (66%) | 3,774 |

Source: own elaboration based on CMGTDM 2021 and 2023.

The intensity of citizen participation mechanisms

The Census of Mexican Municipalities identifies five citizen participation mechanisms: consultation, dialogue, deliberation, co-management, and oversight. Consultation refers to the level at which participants provide opinions or make proposals on issues or problems based on questions formulated by public authorities. Dialogue refers to the level at which public authorities and participants exchange information on issues or problems raised by the authorities. Deliberation refers to the level at which public authorities and participants collectively debate to improve the adoption of a public decision. Co-management refers to the level at which public authorities and participants jointly implement public policies, programs, and projects. Finally, oversight refers to the level at which participants monitor the fulfillment of public decisions.

Based on the literature on citizen participation, consultation, dialogue, and deliberation were categorized as low-intensity mechanisms, while co-management and oversight were considered

high-intensity (Cabrero y Díaz, 2012; Díaz, 2017). Consequently, three categories were established: 0 (no mechanism), 1 (low-intensity mechanisms), and 2 (high-intensity mechanisms). Some municipalities may adopt both low- and high-intensity mechanisms; however, this study classified as high-intensity if at least one mechanism at that level was implemented.

Table 2. Distribution of Municipalities by Intensity of CPMs

| Year | 0 = No Adoption | 1= Low Intensity | 2= High Intensity | Total |
|--------------|------------------------|-------------------------|--------------------------|--------------|
| 2020 | 805 (43%) | 714 (38%) | 368 (20%) | 1,887 |
| 2022 | 491 (26%) | 764 (41%) | 632 (34%) | 1,887 |
| Total | 1,296 (34%) | 1,495 (40%) | 1,029 (27%) | 3,774 |

Source: own elaboration based on CMGTDM 2021 and 2023.

Independent variables

Women in Top-Level Management: This position is at the top of the hierarchy of each department within the municipal public administration. Individuals in these positions can influence the implementation of CPMs. On average, 33% of the individuals holding the highest positions in the hierarchy from 2020 to 2022 were women. It is important to note that this percentage refers only to female department heads, and there is only one head per department.

Mayor's Gender: Mayors have broad powers to promote CPMs within their jurisdictions. The mayor's gender is 1 for a woman and 0 for a man. On average, 26% of mayors were women from 2020 to 2022. For Hypotheses 3 and 4, which consider the beginning of the administration and being reelected as contextual variables (first year = 1, subsequent years = 0; re-elected = 1, not re-elected = 0), interaction variables were created to examine how these contextual factors interact with the mayor's gender in influencing the promotion of CPMs.

Control Variables

The municipality's characteristics may influence the decision to open avenues for popular participation. Control variables include the size of the municipal population, which is log-transformed. Larger municipalities tend to have greater demands for participatory governance due to their more complex social and political structures. Additionally, the percentage of the population living in poverty is considered. Urbanization is another important factor. More

urbanized municipalities are expected to have a more organized and vocal citizenry, leading to a higher likelihood of implementing participatory mechanisms. Municipalities with over 15,000 inhabitants integrated into metropolitan areas, conurbations, or urban centers are classified as urbanized and coded as 1, while non-urban municipalities are coded as 0.

Local administrative capacities can reflect a municipality’s ability to manage and respond to public demands, thereby fostering the establishment of citizen participation channels (Díaz y Ortiz, 2011, p. 372). Bureaucratic size is measured as the number of bureaucrats per 1,000 residents, indicating the municipality's human resources available to implement participatory policies. Similarly, the municipal budget, calculated per capita, represents the financial resources available to the local government on a per-resident basis and can significantly influence the implementation of participation mechanisms. Better-funded municipalities may have more capacity to invest in public engagement activities and infrastructure.

Political factors, such as reelection, also play a role in implementing participatory mechanisms. Since the 2014 electoral reform, Mexican mayors can serve a maximum of two consecutive 4-year terms, with the first reelections occurring in 2018. Reelected mayors may have more substantial incentives to open participatory avenues to secure public support. This variable is coded as one if the mayor has been reelected and 0 if not. An additional control variable was included for the political party's ideological orientation. Municipalities governed by left-wing parties or coalitions were coded as 1, and those governed by right-wing or centrist parties were coded as 0. Lastly, the composition of the municipal council is included, as it could constrain the mayor’s behavior (Wampler, 2004). Therefore, the gender composition of the council is considered through the percentage of women among the members.

Table 3. Descriptive statistics

| | Mean | SD | Min. | Max. | N |
|--|-------|-------|------|------|-------|
| Dependent variable: | | | | | |
| Adoption of Citizen Participation Mechanisms (0= N; 1= Y) | - | - | 0 | 1 | 3,774 |
| Independent variables: | | | | | |
| Sex of the mayor (0= M; 1= F) | - | - | 0 | 1 | 3,774 |
| % Women at top level-management bureaucracy | 32.99 | 13.14 | 0 | 87.5 | 3,774 |
| Control variables: | | | | | |
| % Women within the council | 53.60 | 12.72 | 0 | 100 | 3,774 |
| First-year on charge | - | - | 0 | 1 | 3,774 |

| | | | | | |
|------------------|-------|-------|-------|-----------|-------|
| Reelection | - | - | 0 | 1 | 3,774 |
| Left-wing party | - | - | 0 | 1 | 3,774 |
| Bureaucracy size | 15.12 | 17.71 | 0.217 | 192.22 | 3,774 |
| Budget | 19.57 | 1.53 | 0 | 10,170.59 | 3,774 |
| Urbanization | - | - | 0 | 1 | 3,774 |
| %Poverty | 57.7 | 20.6 | 5.5 | 99.4 | 3,774 |
| Population (log) | 9.85 | 1.42 | 5.90 | 14.47 | 3,774 |

Source: Authors' elaboration.

3.5 RESULTS

Promotion of Citizen Participation Mechanisms

Since the first dependent variable, whether to adopt citizen participation mechanisms, is categorical, I utilized binary logistic regression to examine how the independent variables affect the likelihood of adopting such mechanisms. The model is presented in Table 4, which displays the β coefficients, standardized errors clustered by municipalities, and the odds ratios. The model is statistically significant ($\chi^2 = 203.63$, $p < 0.01$; Nagelkerke's $R^2 = 0.088$). I tested multicollinearity using variance inflation factors (VIF). None of the VIF values are above 10 - the highest is 1.89- indicating that multicollinearity is not a concern (Field et al., 2012).

The results reveal a positive and significant relationship between the presence of women in top-level management positions and the adoption of citizen participation mechanisms. Specifically, for each one-unit increase in the percentage of women in top-level management, the odds of implementing citizen participation mechanisms increase by 1.008. This finding partially supports Hypothesis 1. The mayor's gender does not show a statistically significant association with CPM adoption (OR = 0.966, $p > .05$). Furthermore, the mayor's gender remains insignificant even when interaction terms between the percentage of female leaders in public administration and the mayor's gender are included. This insignificance persists when excluding the percentage of women in top-level positions from the model (see Appendix B). Similarly, the representation of women within the council does not show a statistically significant relationship with the adoption of CPMs (OR = 0.995, $p > .05$).

Table 4. Influence of Women's Leadership in the Adoption of CPMs

| Y = 1 if a CPM is adopted | Model 1 | |
|---------------------------------|-------------------------|--------------|
| | Coefficients | Odds Ratio |
| % Women at top level-management | 0.008 (0.003) ** | 1.008 |
| Mayor is female | - 0.023 (0.105) | 0.966 |

| | | |
|------------------------------|----------------------------|--------------|
| % Women within the council | - 0.003 (0.003) | 0.995 |
| First-year on charge | 0.597 (0.120) *** | 1.79 |
| Reelection | - 0.131 (0.136) | 0.854 |
| Left-wing party | - 0.034 (0.106) | 0.959 |
| Budget | 0.000 (0.000) | 1.006 |
| Bureaucracies size | 0.006 (0.003) ** | 1.003 |
| Urbanization | 0.370 (0.136) *** | 1.580 |
| Poverty | 0.008 (0.002) *** | 1.007 |
| Population (log) | 0.008 (0.002) *** | 1.661 |
| Constant | - 3.289 (0.637) *** | 0.007 |
| -2 Log likelihood | -2281.0983 | |
| Cox and Snell R ² | .063 | |
| Nagelkerke R ² | .088 | |
| McFadden R ² | .051 | |
| AIC | 4590.196 | |
| <i>N</i> | 3,774 | |

Logit Model Results (random effects). Robust standard errors in parentheses, clustered by municipality

*p < .05. **p < .01. ***p < .001.

Source: Authors' elaboration.

This first model presents, without interactions, the variables that will be used to examine differing contexts where the mayors are located (“First year in office” and “Reelection”). The variable “first year in office” is positively associated with CPM adoption (OR = 1.79, p < .001). This suggests that new administrations may be more motivated to establish participatory mechanisms. In contrast, “Reelection” does not show a statistically significant association with CPM adoption (OR = 0.854, p > .05).

Table 5. Marginal Effects on the Implementation of Citizen Participation Mechanisms

| Y = 1 if a CPM is adopted | AME dy/dx | Standard Error | p-value | 95% Confidence Interval |
|--|----------------------|---------------------------|----------------|------------------------------------|
| % Women at top level-management bureaucracy | 0.001 5 | 0.0006 | 0.012 | [0.00033, 0.0027] |
| First-year on charge | 0.103 9 | 0.0211 | 0 | [0.0619, 0.1457] |
| Bureaucracy | 0.001 2 | 0.0005 | 0.008 | [0.00031, 0.0021] |
| Urbanization | 0.083 3 | 0.0251 | 0.001 | [0.034, 0.1326] |
| Population (log) | 0.089 4 | 0.0072 | 0 | [0.0751, 0.1036] |

| | | | | |
|-----------|-------|--------|-------|------------------|
| % Poverty | 0.001 | 0.0004 | 0.001 | [0.0006, 0.0020] |
|-----------|-------|--------|-------|------------------|

4

AME are average marginal effects. Dy/dx for factor levels is the discrete change from the base level.

Source: Authors' elaboration.

The Average Marginal Effects (AME) presented in Table 5 are derived from a model that includes only the significant variables identified in Table 4. In logistic regression, the AME indicates the average change in the probability of the outcome variable resulting from a one-unit change in each predictor (Howell-Moroney, 2024). For instance, the AME for the percentage of women in top-level management is 0.0015, signifying that a one-percentage-point increase in women's representation at the top management level corresponds to a 0.15 percentage-point increase in the probability of adopting a citizen participation mechanism, with all other variables held constant.

The AME for serving in the first year of office is 0.1039, suggesting that during this initial year, the probability of adopting a citizen participation mechanism increases by 10.39 percentage points compared to subsequent years, assuming other factors remain unchanged. Regarding the variable "Bureaucracy," each additional unit is associated with a 0.12 percentage-point increase in the likelihood of adopting a citizen participation mechanism, controlling for other factors. In highly urbanized areas ($ZM = 1$), the probability of implementing a citizen participation mechanism is 8.33 percentage points higher when compared to non-urbanized areas while keeping other variables constant. Furthermore, each increase in the logarithm of the population is related to an 8.94 percentage-point rise in the probability of adopting a citizen participation mechanism, controlling for other influences. Lastly, for every one-percentage-point increase in the poverty rate, there is a corresponding increase of 0.14 percentage points in the probability of adopting a citizen participation mechanism while controlling all other variables.

Promotion of Citizen Participation Mechanisms by Intensity Level

I conducted a multinomial regression analysis to test hypothesis 2 related to the relationship between women's leadership and the adoption of high-intensity participation spaces. This method is particularly effective for analyzing outcomes with multiple categories, as it allows for exploring factors that influence non-adoption, low-intensity adoption, and high-intensity adoption of CPMs. By treating non-adoption (Category 0) as the reference category, the model

estimates how each predictor affects the likelihood of municipalities selecting either low-intensity (Category 1) or high-intensity (Category 2) CPMs in comparison to non-adoption. This framework provides a clear understanding of the conditions under which municipalities are likelier to adopt different levels of citizen participation mechanisms rather than opting not to adopt any.

Table 6. Multinomial Logit Coefficients for Determinants of CPMs Intensity Levels

| Y = CPMs Intensity Levels | Model 2 | | Model 3 | |
|--|--------------------------------------|--------------|-------------------------------------|--------------|
| | 1= Low intensity | | 2= High intensity | |
| | Coeff. | Odd ratio | Coeff. | Odd ratio |
| % Women at top level-management | 0.008 ** (0.003) | 1.009 | 0.004 (0.036) | 1.004 |
| The mayor is female (MF) | -0.089 (0.097) | 0.915 | 0.015 (0.107) | 1.014 |
| % Women within the council | -0.005 (0.003) | 0.995 | -0.002 (0.004) | 0.998 |
| First-year on charge | 0.431 *** (0.114) | 1.53 | 0.526 *** (0.122) | 1.692 |
| Reelection | - 0.105 (0.130) | 0.902 | -0.107 (0.146) | 0.899 |
| Left-wing party | - 0.042 (0.063) | 0.959 | -0.041 (0.110) | 0.960 |
| Budget | - 0.000 (0.000) | 0.999 | -0.000 (0.000) | 1.000 |
| Bureaucracies size | 0.006 ** (0.003) | 1.006 | 0.006 (0.004) | 1.005 |
| Urbanization | 0.251 ** (0.123) | 1.286 | 0.557 *** (0.130) | 1.744 |
| Poverty | 0.002 ** (0.003) | 1.005 | 0.008 *** (0.003) | 1.008 |
| Population (log) | 0.347 *** (0.040) | 1.144 | 0.466 *** (0.044) | 0.070 |
| Constant | - 3.700 *** (0.527) | 0.025 | -5.587 *** (0.603) | 0.002 |
| LR test χ^2 (22) = 294.56 *** | | | | |
| IIA test | 1.39 | | 1.39 | |
| N | 3,774 | | 3,774 | |

Multinomial Model Results. Robust standard errors are in parentheses.

*p < .05. **p < .01. ***p < .001.

Source: Authors' elaboration.

Multinomial logistic analysis must be used when the stringent Independence and Irrelevant Alternatives (IIA) assumption is satisfied (Long & Freese, 2014). This assumption implies that

the presence or absence of other categories does not influence the odds of selecting one category over another. In practical terms, the odds between any two choices remain constant regardless of additional alternatives in the model. The Hausman–McFadden tests did not reveal violations of the IIA assumption.

For municipalities adopting a low-intensity Citizen Participation Model (CPM), the presence of women in top-level management positions is positively associated with adopting such mechanisms. Additionally, municipalities where the current administration is in its first year show a significantly higher likelihood of adopting low-intensity mechanisms. The size of bureaucracy, urbanization levels, population size, and poverty also positively influence the likelihood of adopting low-intensity CPMs. In contrast, demographic and structural characteristics emerge as the primary influencing factors for municipalities adopting a high-intensity CPM. The analysis indicates that larger populations, higher urbanization, and increased poverty levels significantly enhance the likelihood of adopting high-intensity mechanisms.

Analysis of Mediation Variables: re-election and first-year term

The findings support Hypothesis 3, which suggests that female mayors are more likely to implement Citizen Participation Mechanisms (CPMs) at the beginning of their terms. The results indicate a positive association for female mayors in their first year in office (OR = 1.508, $p < 0.01$). This implies that female mayors, in their inaugural year, tend to establish participatory mechanisms more readily. Hypothesis 4 posits that female mayors are more likely to adopt CPMs after re-election. Evidence for this is found in Model 5, where the interaction effect of a female mayor's re-election shows a positive association with CPM adoption (OR = 2.241, $p < 0.01$). This indicates that female mayors may prioritize CPMs as a stable governance strategy after re-election. When examining these interactions concerning Hypothesis 2, which addresses the impact of women's leadership on CPM adoption at different intensity levels, female mayoral leadership becomes significant, indicating that conditions of certainty enhance their impact. However, this effect is concentrated in low-intensity mechanisms (Appendix C). This pattern aligns with findings reported in Table 6, which show that the presence of female leaders in top-level public administration primarily influences the adoption of low-intensity participation mechanisms.

Table 7. Re-Election and First-Year Term Effects in Female Mayors' Adoption of CPMs

| Y = 1 if a CPM is adopted | Model 4 | | Model 5 | |
|---|---------------------------|--------------|---------------------------|--------------|
| | Coefficients | Odds Ratio | Coefficients | Odds Ratio |
| % Women at top level-management | 0.009 (0.003) ** | 1.009 | 0.009 (0.003) ** | 1.009 |
| Mayor is female | -0.123 (0.113) | 0.884 | -0.118 (0.118) | 0.890 |
| First-year on charge | 0.414 (0.141) ** | 1.507 | 0.549 (0.122) *** | 1.760 |
| Reelection | -0.183 (0.138) | 0.832 | -0.366 (0.155) * | 0.697 |
| The mayor is a woman in her first year in office | 0.600 (0.272) ** | 1.508 | - | - |
| The mayor reelected was a female | - | - | 0.807 (0.338) ** | 2.241 |
| % Women within the council | -0.004 (0.004) | 0.996 | -0.005 (0.003) | 0.955 |
| Left-wing party | -0.055 (0.176) | 0.946 | -0.046 (0.108) | 0.995 |
| Budget | 0.000 (0.000) | 1.000 | 0.068 (0.028) * | 1.000 |
| Bureaucracies size | 0.070 (0.030) * | 1.007 | 0.006 (0.003) ** | 1.006 |
| Urbanization | 0.431 (0.140) ** | 1.538 | 0.425 (0.142) ** | 1.522 |
| Poverty | 0.008 (0.002) ** | 1.008 | 0.008 (0.002) *** | 1.007 |
| Population (log) | 0.513 (0.076) ** | 1.670 | 0.514 (0.047) *** | 1.672 |
| Constant | -4.953 (0.615) *** | 0.007 | -4.900 (0.614) *** | 0.007 |
| -2 Log likelihood | -2266.93 | | -2281.098 | |
| Cox and Snell R ² | 0.064 | | 0.063 | |
| Nagelkerke R ² | 0.089 | | 0.088 | |
| McFadden R ² | 0.052 | | 0.051 | |
| AIC | 4590.196 | | 4590.196 | |
| N | 3,774 | | 3,774 | |

Logit Model Results (random effects). Robust standard errors in parentheses, clustered by municipality

*p < .05. **p < .01. ***p < .001.

Source: Authors' elaboration.

DISCUSSION AND CONCLUSIONS

The primary contribution of this research lies in the literature on gender differences in leadership, particularly from a social psychology perspective. While existing research on gendered leadership often relies on subjective measures—such as self-reported perceptions from small samples (Funk, 2017, p. 66)—this study evaluates the implementation of citizen participation mechanisms as a more objective indicator of leadership practices. The findings reveal that women in top management positions positively influence the adoption of participatory mechanisms, especially low-intensity ones, which are the most common in Mexican municipalities. This leadership style may be reinforced by gender stereotypes, which have a dual implication: they reflect observed behaviors while simultaneously reinforcing

societal expectations for women's conduct (Hoyt & Simon, 2024). From a role-congruity perspective, women may feel more inclined to adopt democratic management styles, as these behaviors align with gendered expectations and are generally met with positive responses.

However, the findings also underscore the importance of examining leadership styles in relation to the context in which leaders operate. This study links female leadership styles to documented tendencies toward risk aversion (Byrnes et al., 1999; Charness & Gneezy, 2012; Bartels & Peterson, 2024). The results indicate that female mayors primarily implement participatory practices when in conditions of certainty—such as at the beginning of their term or after being re-elected—rather than as a strategy driven by electoral incentives. This suggests that female mayors associate participatory mechanisms with stable governance practices.

Secondly, this research addresses the gap in large-scale studies on the factors facilitating the availability of participatory mechanisms in the citizen participation literature. The control variables confirm prior findings, suggesting that participatory spaces are more common in urban, densely populated areas and in municipalities with greater local government capacities, such as larger budgets and more extensive bureaucratic staffing. This pattern implies that demographic and administrative complexity significantly influence governance structures, with municipalities possessing these characteristics more likely to provide participatory options. Poverty also emerged as a significant factor. Although this may seem counterintuitive, previous research has identified that in highly marginalized areas, citizen participation often arises from well-defined local needs, such as the lack of basic services (e.g., high illiteracy rates, deteriorated public spaces, and deficiencies in urban mobility). In these contexts, participatory mechanisms and programs frequently originate through collaborative efforts between municipal governments and the community (Cabrero & Díaz, 2012). Including these contextual variables reinforces the relevance of female leadership in local public administration, which remains a critical factor in promoting citizen participation mechanisms.

Practical implications

The practical implications of this study are significant. Results from the Census of Municipal Governments in Mexico emphasize the importance of leaders who actively listen to their

constituents. While the number of municipalities implementing citizen participation mechanisms increased in 2022 compared to 2020, the data still reveal that over 25% of local governments in Mexico do not offer any opportunities for citizen engagement. Emphasis should be placed on implementing training programs to develop and foster leadership that is more receptive to creating spaces for listening, citizen involvement, and shared responsibility—particularly among male leaders. Traditional hierarchical structures are often ineffective in complex societies whose demands often conflict (Klijn & Koppenjan, 2016; Masud & Hossain, 2021). To tackle these intricate problems, collaboration across different sectors and cooperation among multiple organizations is essential, as no single entity possesses all the necessary resources or capabilities (Mosley & Jarpe, 2019). Determining whether leadership styles differ between women and men is crucial, as we aim to improve outcomes and enhance the efficiency of public management.

Limitations and directions for future research

This study has certain limitations. While it analyzes factors that encourage municipal administrations to create opportunities for citizen participation, it does not assess whether these opportunities translate into increased citizen engagement. Future research could examine the extent to which these mechanisms are used and their actual outcomes, which would further contribute to the literature in this area. Additionally, it would be important to explore the areas where participation spaces are most frequently established and to investigate whether leadership styles and gender play a role in fostering these opportunities.

Research on leadership should prioritize objective measures, meaning concrete practices, and examine how these practices evolve, are constrained, or become more pronounced in various contexts. This approach can enhance our understanding of the factors influencing leadership behaviors and offer insights into how gendered leadership dynamics can effectively address the specific needs of local governance and overall outcomes.

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APPENDICES

Appendix A: List of Data Sources

| Variables | Sources |
|---|--|
| Dependent variables: | |
| % Women at top level-management bureaucracy | Census of Municipal Governments |
| % Women bureaucrats, in general | Census of Municipal Governments |
| Independent variables: | |
| Mayor's gender | National Municipal Information System |
| % Women at top level-management bureaucracy | Census of Municipal Governments |
| Control variables: | |
| First-year on charge | National Municipal Information System |
| Coalition | National Municipal Information System |
| Reelection | National Municipal Information System |
| Bureaucracy size | Census of Municipal Governments |
| Female labor participation rate | Census of Population and Housing |
| Population | Census of Population and Housing |
| % Poverty | National Council for the Evaluation of Social Development Policy |
| Urbanization | National Urban System |

Source: Authors' elaboration.

Appendix B: Logistic regression with different independent variables (related to gender leadership)

| | (1) | (2) | (3) |
|---|---------------------------|----------------------------|---------------------------|
| %Women at top level-management | 0.009 (0.004) * | - | 0.009 (0.004) * |
| Mayor is female | - | -0.005 (0.105) | -0.025(0.280) |
| Women in top level-management* Mayor is female | - | - | -0.0005 (0.007) |
| Women within the council | -0.004 (0.003) | 0.1041 (0.003) | -0.005 (0.003) |
| First-year on charge | 0.600 (0.121) *** | 0.621 (0.118) *** | 0.573 (0.121) *** |
| Reelection | -0.170 (0.138) | -0.171 (0.136) | -0.170 (0.138) |
| Left-wing party | -0.017 (0.105) | -0.044 (0.105) | -0.052(0.108) |
| Budget | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) |
| Bureaucracies size | 0.072 (0.003) * | 0.006 (0.025) * | 0.007 (0.003) ** |
| Urbanization | 0.296 (0.134) ** | 0.434 (0.140) ** | 0.425 (0.140) ** |
| Poverty | 0.008 (0.003) *** | 0.008 (0.002) ** | 0.008 (0.002) ** |
| Population (log) | 0.512 (0.125) *** | 0.480 (0.045) *** | 0.510 (0.047) *** |
| | -4.950 (0.605) *** | -2.7868 (0.577) *** | -4.911 (0.613) *** |
| Log-likelihood | -2269.50 | -2272.80 | -2269.41 |
| N | 3,774 | 3,774 | 3,774 |

Source: Authors' elaboration.

Appendix C. Re-Election and First-Year Term Effects in Female Mayors' Adoption of CPMs
(Interactions)

| Y = CPMs Intensity Levels | (1) 1= Low intensity Coeff. | (2) 2= High intensity Coeff. |
|---|------------------------------------|------------------------------------|
| % Women at top level-management | 0.008 ** (0.003) | 0.004 (0.003) |
| Mayor is female | -0.231 (0.107) | -0.073 (0.119) |
| First-year on charge | 0.278 * (0.133) | 0.444 ** (0.141) |
| Reelection | - 0.277 (0.148) | - 0.256 (0.165) |
| The mayor is a woman in her first year in office | 0.525* (0.253) | 0.276 (0.274) |
| The mayor reelected was a female | 0.695* (0.309) | 0.632 (0.350) |
| % Women within the council | - 0.005 (0.003) | - 0.002 (0.003) |
| Left-wing party | -0.040 (0.095) | -0.039 (0.110) |
| Budget | 0.000 (0.003) | 0.000 (0.003) |
| Bureaucracies size | 0.006 * (0.003) | 0.005 (0.003) |
| Urbanization | 0.252 * (0.122) | 0.555 *** (0.129) |
| Poverty | 0.006** (0.002) | 0.007*** (0.002) |
| Population (log) | 0.349*** (0.040) | 0.468*** (0.044) |
| Cons | -3.693*** (0.528) | -5.572*** (0.604) |
| LR test χ^2 (22) = 295.52 *** | | |
| N | 3,774 | 3,774 |

Multinomial Model Results. Robust standard errors are in parentheses.

*p < .05. **p < .01. ***p < .001.

Source: Authors' elaboration.

Appendix D. Alternative Model Specification for Robustness Check for Model 1

| | OLS Random effects |
|---------------------------------|---------------------------|
| % Women at top level-management | 0.002 (.0006) * |
| Mayor is female | -0.011 (0.019) |
| Women within the council | -0.0001 (0.0001) |
| First-year on charge | 0.096 (0.020) *** |
| Reelection | -0.033 (0.025) |
| Left-wing party | 0.0198 (0.034) |
| Budget | 2.53e-08 (0.000) |
| Bureaucracies size | 0.001 (0.005) |
| Urbanization | 0.060 (0.0235) ** |
| Poverty | 0.0016 (0.0004) *** |
| Population (log) | 0.0855 (0.079) *** |
| Cons | -0.3089 (0.105) ** |
| R ² | 0.068 |
| N | 3,774 |

Source: Authors' elaboration.

Note: The Hausman Test was applied to assess the suitability of fixed-effects and random-effects models. With a p-value of 0.1056, the null hypothesis is not rejected, indicating that individual effects are not correlated with the explanatory variables. Therefore, the random-effects model is the most appropriate for this analysis.

CONCLUSIONS

This study thoroughly examines the representation of women in municipal public administration in Mexico, emphasizing their leadership roles, the systemic challenges they encounter, and the transformative effects of their involvement in these positions. The findings reveal persistent gender disparities and propose targeted strategies to promote a more equitable and inclusive public sector.

Structural Inequality and Gender Segregation in Public Administration

Despite recent progress, structural barriers limit women's access to leadership positions within municipal governments. Women currently hold only 27% of top administrative roles, with their representation varying significantly across different municipalities. Horizontal segregation is also a significant issue, as women disproportionately occupy positions associated with social services, while areas of strategic influence, such as finance and public security, remain underrepresented by women. To address these disparities, it is necessary to adopt affirmative action policies, such as gender quotas, and establish clear career advancement pathways. This includes creating formal mentorship programs, offering fast-track training for women with leadership potential, and ensuring gender-balanced candidate pools for high-responsibility roles. These measures aim to empower and encourage women to progress into positions with greater decision-making power.

Gender Pay Gaps and Employment Inequality

The research identifies a persistent wage gap, showing that women in top management earn, on average, \$1,752 MXP less than their male counterparts in equivalent roles. This gap is particularly pronounced in departments where women are more represented, suggesting an ongoing undervaluation of women's contributions. Adopting a comprehensive, gender-sensitive approach to human resources management is essential to combat these disparities. This approach should include objective criteria for performance evaluations and a structured pay equity review to guarantee fair compensation for women across all positions.

Top-Down Impact of Female Leadership on Broader Representation

The study finds that female leadership, especially at the mayoral level, positively influences gender representation throughout municipal administrations. This "top-down" effect occurs when women in executive roles support the advancement of other women, strengthened by a "critical mass" effect—a higher proportion of women in council positions correlates with increased representation in other departments. Institutionalizing Equal Opportunity Plans and Mechanisms for Women's Advancement, such as targeted leadership development programs, would help sustain this effect by creating a structured pipeline for female leaders at all levels of administration.

Role of Female Leadership in Promoting Citizen Engagement

Findings suggest that women in leadership roles are often associated with increased citizen participation, as their collaborative and inclusive leadership styles foster engagement initiatives. This effect is particularly notable during stable conditions, such as the early years of a mayoral term or after being reelected. Consequently, female leadership not only enhances gender representation but also promotes a participatory and community-centered approach to governance.

Recommendations for Effective Implementation of Gender Equality Policies

While various mechanisms exist to reduce gender inequality, inconsistent implementation has limited their effectiveness. To achieve meaningful progress, gender equality policies must be designed with gradual, measurable, and sustainable objectives. For instance, establishing accountability measures within gender equality offices, such as dedicated "delivery units" to track policy outcomes, could enhance the effectiveness of strategic gender equity goals in public administration.

Need for Data to Drive Informed Decision-Making

The lack of regularly updated disaggregated data on women in leadership roles within the public sector hampers the development of effective interventions. This underscores the urgent need to collect high-quality, detailed data on gender representation across departments, which would facilitate better identification of gender gaps and inform targeted strategies to close them.

In summary, this study emphasizes the necessity for structural reforms in municipal public administration to achieve gender equity. Implementing affirmative action policies, enhancing gender-sensitive human resources practices, and creating work environments that support work-life balance will make public administration more inclusive and equitable. These reforms will not only help reduce gender disparities but also enhance the quality and effectiveness of public governance, ultimately benefiting society.