

Queenpins: Women Leaders and Violence in Organized Crime

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Abstract

Criminal organizations are male-dominated patriarchal organizations that kill tens of thousands each year. Qualitative research suggests that criminal organizations led by women—though rare—should be less violent due to women’s gendered pathways to power. We examine these expectations through Mexico’s Tijuana Cartel and leverage the sudden 2008 ascension of a woman to leadership. While violence increased under her tenure, synthetic control results show that she relied more on *hidden* violence and less on *visible* violence and territorial expansion. Original data on male cartel leaders reveals systematic gender differences in trajectories help explain these patterns. Our results indicate that women leaders are not necessarily less violent than men but instead employ different repertoires of violence. Case studies of 44 women leaders across 18 countries since 1850 suggest these findings may generalize to women leaders who inherit power from male kin. Our findings underscore the importance of incorporating gender into organized crime research.

Keywords: gender, women leadership, organized crime, criminal violence, Mexico

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1 Introduction

Criminal organizations impact the well-being of millions around the world (Uribe, Lessing, Schouela and Stecher 2026): they control territory, provide governance to members and nonmembers alike, and perpetrate violence against civilians, rivals, and state actors. Yet, despite a growing body of research analyzing when and where these organizations use violence (see Albarracín and Barnes 2020), women continue to be excluded from these narratives or simply treated as passive and nonviolent actors without agency or as victims.¹ While a growing body of research in feminist criminology shows that women can and do play active roles within criminal groups (see Arsovska and Allum 2014; Selmini 2020; Guerreiro, Gomes and Sousa 2022), we still know little about the consequences of women’s involvement, and more specifically, women’s *leadership* in organized crime. This is despite scholars suggesting that leaders in organized crime profoundly shape their organizations’ goals, structure, and behavior (Lessing and Willis 2019; Chopin and Dupont 2024), and claims that women leaders have distinct profiles and thus rule differently than their male counterparts. For example, some anecdotal accounts and case studies portray women leaders as needing to be more ruthless than men to reach the top and rule,² while others as less violent and more inclined to maintain low profiles (Olvera 2022; Sampó, Troncoso and Paparini 2023). These conjectures mirror broader debates in political science on whether women political leaders defy gender norms and adopt masculine strategies to signal toughness (e.g. Schramm and Stark 2020; Imamverdiyeva and Shea 2022) or follow gender norms and positively influence peace processes (e.g. Krause, Krause and Bränfors 2018; Brannon, Thomas and DiBlasi 2024).

This article analyzes the violent and territorial consequences of women’s leadership in organized crime. Given the dearth of studies in political science on the topic and limited evidence on gender effects in organized crime, we draw on scholarship from related disciplines to build expectations about the violent and territorial behavior of women leaders that we then test. Put together, existing scholarship paints a clear, but suggestive, picture: criminal organizations led by women

¹Recent studies in political science are beginning to explicitly acknowledge gender bias in the sources and content of information (Barnes 2025; Blume et al. 2025) and recognize that it mutes women’s roles and voices (Blume et al. 2025).

²For example, “Quien es Delia Patricia Buendía, ‘Ma Baker’, líder del Cártel de Neza?” *MVS Noticias*, 12/31/2023. “Griselda Blanco and the female drug barons of Latin America,” *BBC*, 01/17/2024.

should employ less violence than when led by men, including against rival criminal organizations, women, and the state, which limits their willingness or ability to contest territory. This is because women leaders are *not* those who defy gender norms and fight their way up from lower ranks, but those who enter through positions of relative privilege, specialize in nonviolent gendered roles pre-leadership, and that inherit power when their male partner or relative—who held the leadership role—is arrested or killed (e.g. [Arsovska and Allum 2014](#); [Selmini 2020](#); [Guerreiro, Gomes and Sousa 2022](#)).

We evaluate these expectations in Mexico, where powerful criminal organizations have perpetrated tens of thousands of homicides and hundreds of political assassinations since 2000. We focus on the Tijuana Cartel, one of Mexico’s most powerful drug cartels, which was founded by the Arellano Félix siblings in the late 1980s and came under the leadership of Enedina Arellano Félix in late 2008 following the unexpected arrest of the last male sibling. Through a case study of Enedina, we highlight how her entry, trajectory, and rise to power were distinctively shaped by gender in ways that very closely resemble the gendered pathways highlighted by the literature.

We test the effect of Enedina’s leadership using the synthetic control method (SCM) and a cartel-year data between 2000 and 2018. First, as expected, we find that under Enedina’s leadership, visible forms of violence—cartel-related homicides, homicides of women, political assassinations, and use of public *narcomessages*³—decreased compared to the counterfactual. Importantly, these results do not mean that Enedina did not perpetrate violence, as some violent trends increased under her leadership in absolute rates, but rather that she did so less than her male counterparts. Second, and against existing expectations, we find that Enedina briefly increased disappearances compared to the counterfactual, suggesting that she was not less violent overall or incapable of using violence, rather that she turned to *less visible* forms of violence, albeit at a lesser rate than the decrease in visible violence. We further find that Enedina concentrated territorial operations rather than expanding geographically like her male counterparts. We address alternative explanations by providing evidence that the results are not driven by women leading less violent cartels, gender biases in reporting, leadership transition effects, changes in drug trafficking or government

³*Narcomessages* are publicly displayed written communications by criminal organizations, typically banners or posters, that convey threats, assert territorial control, justify violence, or send messages to rivals, authorities, or the public, and are often accompanied by a dead body.

enforcement patterns, fragmentation, or caution from being the last-standing family member.

Existing scholarship contends that these differences in violent and territorial outcomes stem from gender differences in leadership trajectories and profiles. To test these proposed mechanisms and help interpret our results, we compare Enedina with all 43 male leaders of Mexican cartels between 2000-2018 using original biographical data. Contrary to most existing studies, we find that about half of male leaders share certain characteristics with Enedina that are typically associated with women leaders: entering criminal organizations through family ties, succeeding male relatives, and inheriting legitimacy. However, we also find that they differ systematically in their violent socialization and expertise: while Enedina entered the cartel through a position of privilege, held non-violent roles pre-leadership, and specialized in administrative and financial positions, nearly all male leaders held violent positions pre-leadership and fought their way up the ranks. These findings clarify which traits are uniquely gendered and help pinpoint mechanisms that help explain Enedina’s differential use of violence.

Overall, our findings support the general expectation from existing research that women leaders use violence differently than men leaders, but also challenge them because violence does not universally decrease under Enedina. These findings problematize existing expectations by suggesting that gendered pathways to leadership lead to differences in preferences over *repertoires of violence* rather than violence in general. We interpret our findings as evidence that Enedina is using violence strategically (like male leaders are already assumed to), yet having different strategic preferences over *forms* of violence compared to male leaders due to gendered socialization. Under Enedina, visible violence is de-emphasized while hidden violence substitutes visible violence to some extent. This interpretation follows existing research noting that it is not that women are inherently less violent due to their biological sex or physiological features, but that the gendered structures within which they operate shape women’s violent behavior (e.g. [Cohen 2013](#)).

Lastly, we would ideally extend our analysis to other women leaders to assess external validity, but data constraints make this unfeasible. Instead, we probe its plausibility by analyzing whether other women leaders share a similar gendered pathway to leadership with Enedina via 44 original case studies of women criminal leaders spanning 6 continents and 18 countries since 1850. To our knowledge, this is the most comprehensive data on women leaders compiled to date. We find

that gender profoundly limits women’s trajectories to leadership to two main pathways: inheriting power from male kin or, unexpectedly, founding their own criminal organization. Women who inherit leadership from male kin have profiles that nearly perfectly match Enedina’s: they enter organized crime and exercise power through male kin, specialize in gendered and nonviolent roles, and hold relatively privileged positions prior to leadership. These patterns suggests that our findings may extend to women inheritors. However, women founders have markedly different profiles and delineate a clear scope condition.

This article makes some key contributions. First, we contribute to the study of gender and non-state actors by examining women’s leadership effects. While recent studies of criminal organizations have shifted the question from *whether* women are involved in organized crime to *how* they participate, this study further shifts it to the *consequences* of their involvement. Similarly, research on rebel groups examines the participation and effects of women in rank-and-file positions (Loken and Matfess 2024; Wood 2009; Mehrl 2022; Ju 2023; Mehrl 2023; Harrell 2023; Krause, Krause and Bränfors 2018; Brannon, Thomas and DiBlasi 2024) but have yet to investigate the impacts of women rebel leaders. We thus complement recent research showing that women hold leadership roles in rebel (Henshaw 2016; Henshaw, Eric-Udorie, Godefa, Howley, Jeon, Sweezy and Zhao 2019; Loken and Matfess 2022, 2024; Loken 2024) and criminal organizations (see Gillespie, Jones, Kelly and Lynes 2024), though we go further by examining the consequence of their leadership.

Second, our findings challenge the extension of the women-and-peace hypothesis—women’s participation in rebel groups positively influences peace processes—to organized crime. Our findings that violence increased under Enedina in absolute rates but differentially vis-à-vis male leaders across forms of violence introduce important nuance and suggest a more strategic use of violence rather than a reduction in *all* violence. In doing so, we also contribute to nascent research on criminal organizations using different repertoires of violence (Cruz and Durán-Martínez 2016; Durán-Martínez 2017; Alcocer 2026) by highlighting that gender can impact preferences over these repertoires.

Third, we contribute to the large body of work on kingpin strategies. Centrally, our results challenge the prevailing argument that kingpin strategies escalate criminal violence by triggering intra- and inter-cartel conflict (e.g., Calderón, Robles, Díaz-Cayeros and Magaloni 2015; Phillips

2015; Velasco 2023). By showing that a women taking power following leadership decapitation can avert these negative consequences under certain conditions, we contribute to existing research beginning to identify organizational factors shaping these consequences. For instance, Jones (2013) studies historic male-to-male leadership turnover in the Tijuana Cartel and finds that violence and crime does not increase when there are respected successors. Looking at the Zetas and Gulf Cartels, Arias and Johnson (2024) argue that internal and external networks can help alleviate the consequences of leadership removal by providing stability.

More broadly, our work intersects with research on women *political* leaders. Our findings on women that inherit leadership from male kin parallels research on women politicians that benefit from dynastic ties to male kin (e.g. Folke, Rickne and Smith 2021; Labonne, Parsa and Querubin 2021). More generally, our study complements research showing that women political leaders use and prevent violence—including against women—differentially than male leaders (e.g. Caprioli and Boyer 2001; Koch and Fulton 2011; Dube and Harish 2020; Bochenkova, Buonanno and Galletta 2023; Alcocer, Skillman and Torres-Beltran 2025).

2 Women Leadership and Violence in Organized Crime

Organized crime presents an especially important context for studying gender because it is a male-dominated sphere characterized by patriarchal and hypermasculine norms (see Arsovska and Allum 2014; Selmini 2020; Guerreiro, Gomes and Sousa 2022). Unsurprisingly, longstanding views of women involvement in organized crime are based on traditional gender stereotypes and either omitted them or portrayed them as passive and nonviolent actors without agency or as victims. Early work by feminist scholars contested these views by showing that women play active roles and exert power, though these tend to follow gendered dynamics (see Arsovska and Allum 2014; Selmini 2020; Guerreiro, Gomes and Sousa 2022). More recently, it has become recognized that while women leadership in organized crime is comparatively rare, women do occasionally become leaders. Expectations about their behavior as leaders, nevertheless, remains wanting.

Given the dearth of studies in political science on the topic and limited quantitative evidence,

this section deductively constructs expectations⁴ about women’s leadership effects by drawing on research from disciplines including feminist criminology, anthropology, and sociology, and topics such as narco-culture, gender studies, conflict studies, and women leadership effects. Subsequent sections then test these expectations empirically.

In short, existing research suggests that women leaders should be less violent not simply because they are women, but because the women who reach leadership positions in criminal organizations possess systematically different gendered trajectories than their male counterparts. That is, patriarchal and hypermasculine organizations shape women leaders’ trajectories, which, in turn, influence their behavior once in power. In highlighting *gender*, we do not mean physiological traits (*sex*) but the “cultural meanings associated with behaviour, personality and expressions conventionally labelled as feminine or masculine” (Lindqvist, Sendén and Renström 2021, 334). We note that women experiencing organized crime differently than men is not to reduce everything to gender or deny that men also experience gendered trajectories, but rather to acknowledge women’s gendered perspectives. We also take intersectionality seriously by acknowledging that gender and behavioral differences are also a result of other structural conditions, such as race, economic class, and social status.

2.1 Women Leaders in Organized Crime

Despite an emerging body of literature in political science exploring the gendered trajectories and life cycles of women political leaders (e.g. Aldrich and Somer-Topcu 2025) and rebel leaders (Henshaw 2016; Henshaw et al. 2019; Loken and Matfess 2022, 2024; Loken 2024), women criminal leaders have received comparatively little attention. Moreover, while scholars have articulated the glass ceiling and glass cliffs faced by women in politics (e.g. Aldrich and Somer-Topcu 2025), organized crime is characterized by a lack of formal procedures and institutions that make entry, selection, and promotion fundamentally different.

We now know that despite women leadership in organized crime being much less common than male leadership, women do occasionally become leaders. This cognizance has been followed by a recognition that the trajectories and socialization of women leaders are deeply shaped by gender dynamics, with some suggesting this impacts how they rule. Crucially, existing studies find

⁴We constructed these expectations before analyzing the data.

that women leaders are rarely those who enter as low-ranking members and work their way up, which may be precisely the women who may have to defy gender norms and use more violence to fight their way up and prove their status. Instead, it is women with relative privilege who often hold important or high-ranking positions that inherit leadership from a male kin who holds the leadership role: They are the partners, sisters, or daughters of male leaders. Furthermore, women’s ascension appears more likely during crises or moments of instability when male leaders are heavily targeted—either by rivals or the government—and are unable to continue leading, often due to arrest or death (Fiandaca 2007; Massari and Motta 2007; Ingrasci 2007; Allum and Marchi 2018; Otomo 2007; Campbell 2008; Guerreiro, Gomes and Sousa 2022; Sampó, Troncoso and Paparini 2023; Fleetwood and Leban 2023; Allum 2024).

2.2 Impacts of Women Leadership in Organized Crime

Given that women leaders are those in relatively privileged non-violent positions who inherit leadership from male kin, we draw on existing research to derive expectations about their impacts on their organization’s use of violence and territorial control. Put together, existing scholarship paints a clear picture: women leaders should be less likely to use violence, including against rival criminal organizations, women, and the state, and limit their territorial expansion compared to male leaders.

Foundationally, a small but growing literature argues that leaders in organized crime profoundly shape their organizations’ goals, structure, and behavior. Scholars argue that the type of leadership in organized crime matters (see Chopin and Dupont 2024), and that leaders function as key brokers (Calderoni 2014, 2016; Calderoni and Superchi 2019) and are highly influential for the organizations’ goals, structure, internal governance, and member behavior (Chopin and Dupont 2024; Lessing and Willis 2019). We extend these insights to women leaders.

In particular, we find key mechanisms proposed by existing research on why women leaders—those who inherit power from male kin—may behave less violently than male leaders: differing social expectations around the use of violence, pre-leadership access to means of violence, pre-leadership skill specialization in nonviolent business and organizational management, and male subordinates being less likely to perpetrate violence on behalf of women.

First, there are different social expectations of violence for women in organized crime, particu-

larly for those who enter through privileged roles, specialize in administrative positions, and inherit power. Members of criminal organizations often represents key pillars of masculinity: social status, wealth, and access to women. The use of violence in organized crime is often a means for boys and men to construct, measure, and redeem their manhood and masculinity (Penglase 2010; Plaza and Sánchez 2016; Núñez Noriega and Espinoza Cid 2017), so men, in particular, may believe that the use of violence is necessary and legitimate. Unsurprisingly, the expression of masculinity through violence is often glorified in these spaces (Gillespie et al. 2024) and may partly explain levels of violence in organized crime (Yáñez and Salas 2019). Inversely, women are often not socialized to integrate violence into their gender identity in organized crime in the same way as men, particularly those with privileged positions, and instead are generally expected to be nonviolent, naive, tender, and passive (e.g., Mejías and Latorre 2022; Leboeuf 2022). To the extent that these gendered expectations are salient for women in privileged positions that inherit power, these women may be less likely to engage in violent behavior.

Second, gendered roles may also prevent these specific women from having equal access to means of violence. Women in criminal organizations generally hold nonviolent roles, particularly those related to finances, such as business management and money laundering (Fiandaca 2007; Requena, De Juan, Giménez-Salinas and De La Corte 2014; Giacomello and Youngers 2020; Sampó, Troncoso and Paparini 2023; Jaraba 2024). As Anderson (2005) argues, this means that in organized crime, men often have “power-over” (defined by dominance and control over others) while women tend to exercise “power-to” (defined as relational power used to benefit others and the self). These dynamics have led some to argue that women in organized crime have a stronger preference for collaboration (De Seranno and Colman 2023) and that women in positions of power prefer less violence (Olvera 2022). This means women who inherit leadership may have had less access to direct means of violence pre-leadership and lead them to run their organizations with fewer conflicts once they ascend to leadership. This does not mean women are incapable or unwilling to exercise violence, because many do (Allum 2024), but that they do so less than men leaders.

Third, given that women who ascend to leadership often hold key nonviolent roles prior to their ascension, including positions in administration, business negotiations, financial planning and management, personnel management, and overseeing business operations, these roles enable them

to develop specialized skills in nonviolent business and organizational management. If women leaders are more prone to adopting organizational structures and management styles that rely less on coercion, then the criminal organizations they lead can successfully operate with less violence.

Alternatively, women leaders may use less violence *even if* they seek to use the same violence as male leaders, either because they have less experience using violence effectively or due to male subordinates being less likely to exercise violence on behalf of women leaders. As Gillespie et al. (2024) point out, even women leaders seeking to use violence rely on other members (primarily men) to commit violence on their behalf.

In sum, the women in relatively privileged non-violent positions who inherit leadership from male kin may have fewer expectations about using violence, limited experience wielding violence, better nonviolent management skills, and face some backlash from subordinates due to their gender.

Expectation 1 (E1): *Woman-led criminal organizations are less likely to use violence than male-led organizations.*

Beyond the general use of violence, violence against women may be a form of violence that women leaders are particularly sensitive to given their own experiences in hyper-masculine spaces, their gendered roles within organized crime, and that they are subject to more private violence than male leaders (Siebert 2007; Massari and Motta 2007; Ingrasci 2007). Additionally, some studies argue that women attain positions of power more often in human smuggling organizations because this market relies on care giving, interpersonal networks, and concern for clients (Zhang, Chin and Miller 2007), suggesting that women in organized crime may be more prone to this type of behavior. These expectations align with research indicating that increased female participation in rebel groups is associated with a reduction in the organization’s use of sexual violence (Wood 2009; Mehrl 2022; Ju 2023).

Expectation 2 (E2): *Woman-led criminal organizations are less likely to use violence against women than male-led organizations.*

Women leaders may also be less likely to violently confront the state than men leaders if they use less violence in general, are more willing to negotiate with state actors, or if they benefit from

less law enforcement scrutiny. Not all mechanisms stem from women’s pre-leadership trajectories, however — some operate externally: scholars contend that individuals in law enforcement and judicial institutions often view women in organized crime through prevalent gender stereotypes portraying them as subservient to men, passive actors, and victims (Rossi 2007; Dino, Milia, Milito and Oliveri 2007; Campbell 2008; Fleetwood 2015; Selmini 2020; Farfán-Méndez 2020; Olvera 2022; Sampó, Troncoso and Paparini 2023; Allum 2024). This makes women less visible and therefore less likely to come under scrutiny. Some scholars further argue that women’s everyday lives in these patriarchal organizations are more private than those of men, making them harder to investigate (Sampó, Troncoso and Paparini 2023). Moreover, women have agency and may strategically use or manipulate their image to their advantage to maintain lower profiles and remain less suspicious to law enforcement (Campbell 2008; Olvera 2022; Sampó, Troncoso and Paparini 2023; Allum 2024). Some argue that these factors lead to a “paradox of invisibility” where gender stereotypes invisibilize the functions of women to law enforcement institutions, benefiting the organizations they work for or lead (Farfán-Méndez 2020). In the face of reduced oversight, violence as a defense mechanism against state enforcement is therefore less necessary.

Expectation 3 (E3): *Woman-led criminal organizations are less likely to use violence against the state than male-led organizations.*

Finally, if women leaders generally prefer to maintain lower profiles, resort less to violence, and their identities rely less on the use violence, this may translate to women also seeking less territorial control to the extent that it is not central to their business. Their expertise in nonviolent roles before gaining leadership may simply mean they prioritize nonviolent strategies to run their organization and achieve profits. This follows some studies arguing that women participation is higher in markets where territorial control is less prominent as an organizing feature (Savona and Natoli 2007; Zhang, Chin and Miller 2007; Kleemans, Kruisbergen and Kouwenberg 2014). Alternatively, women leaders may be more constrained in expanding their territorial operations even when they pursue this goal if it requires violence and women leaders have less experience using violence effectively or male subordinates are less likely to exercise violence on behalf of women leaders.

Expectation 4 (E4): *Woman-led criminal organizations are less likely to extend their territorial presence than male-led organizations.*

3 Mexico’s Drug Cartels

To test these expectations, we turn to Mexico and its powerful drug cartels. Since the late 1980s, a handful of powerful criminal organizations specializing in trafficking drugs to international markets, known as “drug cartels,” have dominated the criminal underworld. In December of 2006, the newly elected president declared war against drug trafficking and drug cartels and incrementally deployed the military throughout the country. Key components of this government crackdown included drug interdiction and kingpin strategies where the government sought to capture or kill cartel leaders. Since then, violence, including against the state, increased significantly.

Mexico is generally considered a traditional country with strong patriarchal norms. Within Mexican drug cartels, these views are exacerbated, with “narco masculinities” pushing traditional gender roles and the use of violence to extremes ([García-Reyes 2022](#)). These norms are most visibly reflected in “narcoculture,”⁵ where there is a near-total overlap between what is valued in drug trafficking and what is masculine ([Plaza and Sánchez 2016](#)), pushing those involved to accept and even internalize these gender dynamics ([Noriega 2017](#)). Nevertheless, women have been historically involved in drug trafficking in Mexico, albeit primarily through gendered or low-level roles, with only three previously documented cases of women leaders prior to the 1990s ([Santamaría Gómez 2012](#)).

We focus on the case of Enedina Arellano Félix, leader of the Tijuana Cartel since 2008, who appears to exemplify the prototypical woman leader described by the literature. However, it is unclear ex ante how Enedina compares to the set of cases in Mexico or around the world more broadly given a lack of systematic data on women leaders. Rather than a deductive case selection method, we analyze the case of Enedina due to data availability and then probe the generalizability by constructing the most comprehensive dataset on women leaders to date.

⁵Narcoculture is broadly defined as the social and cultural norms, values, behaviors, and aesthetics associated with the world of drug trafficking and organized crime.

3.1 The Tijuana Cartel

The origins of the Tijuana Cartel (also known as the Arellano Félix Organization or Arellano Félix Cartel)⁶ are rooted in the 1980s with the Arellano Félix siblings: seven men (only five have been linked to organized crime: Rafael, Benjamin, Ramón, Francisco Javier, and Eduardo) and four women (though only Enedina and Alicia have been linked to organized crime). The family is originally from the state of Sinaloa, where the siblings were born. Benjamin and Eduardo were involved in drug trafficking since at least the early 1970s, with Benjamin becoming an important distributor in California for powerful regional drug traffickers like Pedro Aviles Perez and Jorge Favela Escobosa. During the 1980s, Benjamin gained favor with some of Mexico’s major traffickers—Rafael Caro Quintero, Miguel Ángel Félix Gallardo, and Ernesto Fonseca Carrillo—due to his connections with Javier Caro Payán (Caro Quintero’s uncle), who dominated drug trafficking in Tijuana. With these connections, Benjamin began taking control of drug trafficking along the western portions of the US-Mexico border. Some media accounts claim that the Arellano Félix siblings are the nephews of Miguel Ángel Félix Gallardo, though Benjamin Arellano Félix once denied this claim during an interview. With the arrest of Caro Payán in 1987 and the fall of the Guadalajara Cartel following the arrests of Caro Quintero and Carrillo Fuentes in 1985 and Félix Gallardo in 1989, Benjamin, with the support of his male siblings, gained independence and began operating as an autonomous criminal organization with its base Tijuana. Some accounts suggest that by 1989 Benjamin controlled virtually all drug trafficking routes towards California and Arizona.

Through the 1990s, the Tijuana Cartel consolidated itself as one of the most powerful drug cartels in Mexico due to their control of drug trafficking routes along the western US. This did not go without conflict. From 1989 to 2003, the Tijuana Cartel fought the Juarez Cartel over key trafficking routes along the US-Mexico border. Since at least 1988, the Arellano Félix Organization has been at war with the Sinaloa Cartel, leading to the arrest of the eldest brother, Francisco Rafael, in 1993 (released in 2008) and his assassination in 2013, as well as the assassination of a younger brother, Ramón, in February 2002.

In October of 2002, Benjamin, the family leader, was arrested, leaving Francisco Javier as

⁶We triangulate across investigative books, journalistic accounts, government documents, and secondary scholarship to construct the case study. See Online Appendix for list of sources.

the head of the organization. In 2004, a high-ranking government official stated that the Tijuana Cartel had forged a short-lived alliance with the Gulf Cartel through the imprisoned Benjamin, who shared prisons with Osiel Cardenas Guillen, leader of the Gulf Cartel. In August of 2006, Francisco Javier was arrested by US authorities and Eduardo—the last active male sibling—gained leadership. In late 2007, internal disputes began between the Arellano Félix family and Teodoro García Simental, a high-ranking member of the Tijuana Cartel, which broke into all-out war in April 2008 and escalated when García Simental forged a military alliance with the Sinaloa Cartel that same year. On October 26, 2008, Eduardo was apprehended by the Federal Police. The DEA published a statement claiming this arrest marked the end of the Arellano Félix Organization. This was not the case. Enedina Arellano Félix took leadership with the support of her nephew Fernando Sánchez Arellano, son of Alicia, and her sister Alicia.⁷

3.2 Enedina Arellano Félix

Examining the case of Enedina is challenging beyond the fact that she operates clandestinely because gender stereotypes abound in public reports. To illustrate, media outlets have nicknamed her “La Jefa” (*the female boss*), “La Madrina” (*the godmother*), and “Narco mami” (*narco mommy*)—all nicknames referencing her gender. The most well-known, “La Narcomami,” uses the term “mami” which is generally used to sexualize women and reference their physical appearance. Not surprisingly, despite the most recent pictures of Enedina being from more than two decades ago, reports often continue to mention her physical beauty, with many asserting that it helps her conduct business with men,⁸ illustrating the gendered stereotypes through which her, her image, and her actions continue to be seen, portrayed, and understood. These narratives have helped build a certain gendered mythology around her that continues to be perpetuated by (primarily male) journalists, reporters, and security experts. In this context, we attempt to present accurate information while acknowledging that some representations may reflect gendered bias in our sources. We present sources by claim in Online Appendix A and discuss gender bias in our sources further in Online Appendix G3.

⁷Some reports claim Fernando is Enedina’s son, not Alicia’s, leading to confusion in media reports. However, leading experts on the Arellano Félix Organization and official reports from Mexico’s Prosecutor’s Office state that he is Alicia’s son.

⁸E.g., Grillo, Ioan. “Meet the First Woman to Lead a Mexican Drugs Cartel.” Time. July 7, 2015

Enedina was born in 1961 in Mazatlan, Sinaloa, Mexico, and was protected by her family from her brothers' drug trafficking activities during her childhood. According to some accounts, Enedina hoped to compete in a beauty pageant at the Mazatlan Carnival when she was 16 years old but was unable to since her brothers were wanted by the authorities. She attended a private university in Guadalajara, Jalisco and graduated with a degree in accounting, after which, according to some accounts, she began helping her mother manage the family's legal businesses.

In 1985, at the age of 24, Enedina married Luis Raúl Toledo Carrejo, a businessman, in Guadalajara, and the couple moved to Tijuana to manage family businesses. According to most credible accounts, this is when Enedina began her involvement in her brothers' drug trafficking operations by using the legal businesses she managed to launder money. In the early 1990s, she became more directly involved when her and her husband acquired a pharmaceutical company that was allegedly used to import precursor chemicals that the nascent Tijuana Cartel used to produce synthetic drugs. This is also when Enedina is said to have begun directly advising her brothers on the financial matters of the Tijuana Cartel.⁹

In early 2000, Jesús Labra Avilés, the financial mastermind of the Tijuana Cartel, was arrested and Enedina allegedly replaced him, putting her in charge of the finances and money laundering operations of the cartel. This event coincides with the United States Department of the Treasury sanctioning Enedina under the Foreign Narcotics Kingpin Designation Act in 2000.

In 2002, Enedina's role expanded and became even more central after Ramon was killed and Benjamin was arrested, leaving the family weakened. In 2005, a U.S. investigation into the Tijuana Cartel identified 25 companies Enedina and her husband managed as the backbone of the organization's money laundering operations. With the arrest of Francisco Javier in 2006, Enedina became the key advisor to Eduardo, the last standing male sibling.

On October 26, 2008, Eduardo was arrested following a shootout with the Federal Police in Tijuana, and Enedina took charge of the Tijuana Cartel during the apex of a brutal war against García Simental. Enedina was supported by her nephew Fernando, who took a prominent role as head of operations, and her sister Alicia. More than a year into her reign, the war ended and the

⁹A recent account that is unsubstantiated by reliable evidence that illustrates gender bias in reporting is that in 1988/89, Enedina fell in love with a Sinaloa Cartel member, but that her brothers prohibited the relationship and killed him, triggering a war with the Sinaloa Cartel.

Tijuana Cartel declared victory when García Simental was arrested in early 2010. Some accounts claim that following the war, Enedina negotiated a business deal with the Sinaloa Cartel that allowed them to traffic through Tijuana for a price, avoiding another war, though this is contested.

Extraordinarily little information exists about Enedina's leadership, likely reflecting both reporting bias and her own low-profile approach. Most accounts claim that Enedina never liked the wars of her brothers and prefers to negotiate. Some also state that her role as money launderer and head of finances before her leadership made her business oriented, calculating, and savvy. Compared to her brothers, her and her sister, Alicia, prefer more private, low-profile lives, with virtually no private information existing about either of them.

Some experts claim that Enedina was preparing her nephew Fernando as her successor. However, in 2014, Fernando was arrested in Tijuana, leaving Enedina without the support of a key male family member. By 2018, however, journalists reported that at least three other male nephews were also operating in the organization under Enedina. Although Enedina Arellano Félix relies on family members to oversee some operational activities, this arrangement is similar to the delegation patterns observed under most male cartel leaders and does not indicate limited autonomy or authority over organizational decisions.

In 2015 and 2016, some reports suggest that Enedina restructured the cartel, decentralizing it and giving internal factions more autonomy. In 2016, one faction of the Tijuana Cartel forged an alliance with the Jalisco New Generation Cartel and adopted the name Tijuana New Generation Cartel. In 2018, one of these factions formed an alliance with the Chapitos faction of the Sinaloa Cartel. In 2023, Francisco was released from prison and rejoined Enedina and the Tijuana Cartel. With the alliance between CJNG and Los Chapitos in 2026 to fight the Los Mayitos, Enedina reportedly also forged a top-down alliance with CJNG and Los Chapitos. As of mid-2026, Enedina remains the leader of the Tijuana Cartel, and her public image continues to be frequently portrayed through gender stereotypes.

4 Empirical Strategy and Data

To test the impact of Enedina Arellano Félix’s leadership on the Tijuana Cartel, we follow existing literature using the SCM to estimate political leadership effects (Grier and Maynard 2016; Funke, Schularick and Trebesch 2023), including women’s leadership (Imamverdiyeva and Shea 2022), and leadership in organized crime (Calderón et al. 2015). This approach allows us to estimate the consequences of a woman leader for violent and territorial outcomes. Existing research suggests that women-led organizations should behave differently because gendered socialization and trajectories make women leaders systematically different than men leaders. Accordingly, our interest lies in analyzing the consequences of these *gendered* leader profiles rather than in comparing otherwise identical men and women to estimate the effect of *sex*. A comparison holding pre-leadership profiles constant would remove the very differences existing research argues are consequential for leadership behavior and be difficult to implement empirically given the rarity of comparable cases.

Specifically, the SCM creates a “synthetic” control from units in the control group (or donor pool) that closely resembles the treated unit, thus acting as a counterfactual (Abadie, Diamond and Hainmueller 2010, 2015; Abadie 2021). The SCM relies on the argument that a synthetic Tijuana Cartel can better resemble the Tijuana Cartel than comparisons with a single other cartel, for example, the Juarez Cartel. In our case, the SCM uses data on Mexico’s major cartels to compare the Tijuana Cartel with a synthetic Tijuana Cartel before and after Enedina’s rise to power. The SCM is particularly useful and appropriate in our case since it was designed in cases with one treated unit, specifically for interventions implemented at an aggregate level affecting a small number of large units, and instances with a few units and small samples. To estimate the SCM, we create a cartel-year dataset on the violent behavior and territorial presence of each major drug cartel between 2000 and 2018 by combining data on the local geographic presence of each drug cartel per year from Sobrino (2023) with data on violent outcomes.

Formally, we have data on $J + 1$ cartels, the first, ($j = 1$) of which receives the treatment—a woman becoming leader. The other units, $j = 2, \dots, J + 1$, are the potential control cartels, or “donor pool.” Our data includes T periods (2000 - 2018), with the first T_0 periods corresponding to the pre-treatment period (2000-2008). For each cartel, we also observe a set of k covariates. The

outcomes are represented by Y_{it} , and include measures of violence and territorial presence.

The synthetic control is represented by a $J \times 1$ vector of weights, W , which are used to create the synthetic Tijuana Cartel. The weights, W , represent the contribution of each control cartel to the synthetic control and are restricted to be non-negative and sum to one. The weights are estimated in a way that the synthetic Tijuana Cartel best resembles the pre-treatment covariate values of the Tijuana Cartel. That is, the SCM optimizes the weights, W , that minimize the distance between the covariate values of the Tijuana Cartel and the synthetic control during the pre-treatment period. Next, the weights, W , are used to estimate the outcomes for the synthetic Tijuana Cartel as follows:

$$\hat{Y}_{it}^N = \sum_{j=2}^{J+1} w_j Y_{jt} \quad (1)$$

Since we denote the Tijuana Cartel as $j = 1$, the estimated treatment effect of having a woman, Enedina, become the leader of the Tijuana Cartel in 2009 at $t = T_0 + 1, \dots, T$ is given by:

$$\hat{\tau}_{1t} = Y_{1t} - \hat{Y}_{it}^N \quad (2)$$

As is recommended by the literature ([Abadie, Diamond and Hainmueller 2010](#); [Ferman, Pinto and Possebom 2020](#)), we include pre-treatment outcome trends as predictors for all models. This has been found to improve the model’s ability to control for unobserved confounders ([Ferman, Pinto and Possebom 2020](#)). For models looking at geographic presence, this includes the total number of municipalities with cartel presence, the number of contested municipalities, and the number of non-contested municipalities.

4.1 Robustness Tests

For each outcome, we conduct a series of robustness tests. First, we estimate placebo results by iteratively assigning the treatment to each cartel in the control group and estimating the placebo effect. Comparing the main result against the placebo permutations shows how extreme the main results is compared to the full set of placebo effects. To test these differences formally, we follow [Abadie, Diamond and Hainmueller \(2010, 2015\)](#) and [Abadie \(2021\)](#) and calculate the set of pre- and post-treatment root mean squared prediction error (MSPE) values using the main and placebo

results, with which we calculate the post/pre-treatment MSPE ratio. MSPE ratios measure the quality of the fit of a synthetic control in the post-treatment period relative to the pre-treatment period, with higher values denoting better synthetic controls. The comparison of the treated unit’s MSPE ratio with the placebos is used for inference in the SCM.

We also follow recommendations by [Abadie, Diamond and Hainmueller \(2015\)](#) and [Abadie \(2021\)](#) and perform a leave-one-out robustness test where iteratively re-estimate the main models excluding one cartel in the donor pool each iteration. This is a type of sensitivity test to evaluate whether the results are driven by any particular unit in the donor pool. Finally, we follow the literature and conduct backdating where we set the start of the treatment period as 2005, 2006, and 2007 rather than 2009 to assess the credibility of the synthetic control ([Abadie, Diamond and Hainmueller 2015](#); [Abadie 2021](#)).

4.2 Treatment and Donor Pool

We focus on the Tijuana Cartel given the rise of Enedina in October 2008. Our treatment is a dummy variable that takes on the value of 1 for the Tijuana Cartel 2009-2018 and 0 otherwise, and 0 for all other cartels. We use the other seven major Mexican drug cartels as the donor pool to create the synthetic Tijuana Cartel. These include the Sinaloa Cartel, Beltran Leyva Organization, Juarez Cartel, Gulf Cartel, Zetas-Northeast Cartel, Michoacán Family-Knights Templar Cartel, and Milenio Cartel-Jalisco New Generation Cartel. For purposes of the analysis, we treat the Knights Templar as a continuation of the Michoacán Family, the Northeastern Cartel as a continuation of the Zetas, and the Jalisco New Generation Cartel as a continuation of the Milenio Cartel. We recognize that the evolution of these organizations was often complex and involved fragmentation, succession struggles, and organizational overlap.¹⁰ Our coding reflects analytical simplifications necessary for constructing a cartel-year panel. While Mexico has dozens of criminal organizations, we restrict our donor pool to these seven cartels for substantive reasons. These are all networks that began establishing themselves by the 1990s¹¹, were among the principal actors in Mexican drug trafficking

¹⁰For example, the Beltrán Leyva Organization operated semi-autonomously under the Sinaloa Cartel before splitting in 2008, the Zetas gradually gained autonomy from the Gulf Cartel before becoming independent in 2009, and small elements of the Michoacán Family continued operating separately from the Knights Templar after the re-branding.

¹¹Although some did not operate with full autonomy until the 2000s.

at the beginning of our period of analysis, and operated at a scale broadly comparable to the Tijuana Cartel. Restricting the donor pool to large trafficking organizations improves comparability relative to smaller and more localized criminal groups, many of which do not participate extensively in international drug trafficking.

4.3 Violent Behavior and Territorial Presence

To investigate violent behavior, we combine data on local cartel presence with data on different forms of violence and create four variables: cartel-related violence, disappearances, violence against women, and violence against the state. Summary statistics are provided in Table A1 of the Online Appendix.

First, to examine general violence (E1), we measure cartel-related homicidal violence, disappearances, and narcomessages. To measure measures cartel-related homicides, we use official data on homicides and following existing research measuring cartel-related homicides as the homicides of young men (ages 15-34) (Calderón et al. 2015). Combining this measure with data on municipal population and cartel presence, we calculate cartel-related homicide rates in the municipalities where each cartel had presence per year, and aggregate to the cartel-year level. This variable measures the mean cartel-related homicide rates in the municipalities where each cartel operated each year.

We also measure disappearances, a less visible but prevalent form of violence. We use data from the National Registry of Data on Missing or Disappeared Persons (*RNPED*), which identifies the municipality where reported disappearances occurred between 2000 and 2017. Unless reporting bias is correlated with the municipalities where the Tijuana Cartel operated each year post-2008, it should not bias the results. Using this data, we calculate disappearance rates in the municipalities where each cartel had presence per year, and aggregate to the cartel-year level.

We also measure the use of public psychological or symbolic violence by using data on the use of narcomessages. Johnson (2025) provides the most extensive data on narcomessages in Mexico from 2006 to 2012 and includes the municipality where each was left. Of the 5,776 messages in the data, 5,474 include municipal-level information. Using this data, we calculate the number of messages left in municipalities where each cartel operated per year, and aggregate to the cartel-year level. While analyzing the content could provide further information, the content of the messages

are missing for more than half of the messages.

Second, to examine violence against women (E2), we use official homicide data to calculate the homicides rates of young women (ages 15-44) in the municipalities where each cartel had presence per year. We use this age range given that women in this age group are particularly vulnerable to gender-based violence in Mexico (SEGOB, INMUJERES and ONU Mujeres 2017) and Latin America (ECLAC 2021). We use the term homicides of women for this variable rather than femicides because available data do not allow us to reliably distinguish killings motivated by gender from other homicides. Consequently, this measure captures both femicides and other forms of lethal violence against women.

Third, to measure cartels violently confronting the state (E3), we use data on political assassinations from Alcocer and Erickson (2026).¹² This data identifies all politicians (mayors, municipal council members, governors, state legislators, and federal legislators) assassinated in Mexico between 2000 and 2018 and the municipality where they were killed. Using this data, we calculate the total number of political assassinations in the municipalities where each cartel had presence per year.

Finally, we operationalize territorial presence (E4) as the total number of municipalities that each cartel had presence in per year. While this measure cannot tell us *how* or *whether* each cartel controlled these municipalities, it does identify where they operate and the extent of their territorial presence across time.

4.4 Covariates

To create the synthetic control, we identify key variables influencing cartel operations and violence: government crackdowns, leadership decapitation, criminal conflicts, and vertical political alignment.

First, tough-on-crime crackdowns against organized crime generally increase criminal violence and violence against the state (e.g. Osorio 2015; Lessing 2017; Magaloni, Franco-Vivanco and Melo 2020; Barnes 2022; Blair and Weintraub 2023). To account for Mexico’s crackdown, we use data on the year anti-drug operations began in each state from the military to identify the year these

¹²While we would ideally look at other forms of violence against the state, data on police killings and military-cartel conflicts either do not cover our time period or start in 2007, not allowing us to estimate pre-treatment trends.

operations began in the strongholds of each cartel.

Second, leadership turnover, particularly from government kingpin strategies, has been linked to increased violence (e.g., [Jones 2013](#); [Calderón et al. 2015](#); [Phillips 2015](#); [Velasco 2023](#)). We create two variables to capture turnover: the number of leaders arrested and that died per cartel per year. These variables help account for government actions targeting leaders, fragmentation stemming from leadership turnover, internal rearrangements due to succession struggles, and moments of leadership instability.

Third, criminal conflicts are a primary driver of violence. To account for this dynamic, we create two separate variables that together capture the extent of conflict cartels are involved in. Using cartel geographic presence data, we measure contested territories (municipalities where multiple cartels operate) and uncontested territories (municipalities where a single cartel operates).

Fourth, vertical political alignment has been generally found to help combat criminal organizations and reduce violence ([Rios 2015](#); [Durán-Martínez 2017](#); [González and Cáceres 2019](#); [Alberti, Díaz-Rioseco and Visconti 2023](#)). To account for this, we measure the number of municipalities each cartel operates in with alignment with (1) both state and federal executives, (2) only state executives, and (3) only federal executive.

5 Results

We first provide the results for cartel-related violence. Figure 1 shows the (A) trends for the Tijuana Cartel and its synthetic control, (B) estimated effect across time along with the distribution of placebos, (C) weight assigned to each unit in the donor pool, and (D) RMSE for the main model and the placebos. These plots show the main results and their robustness. We then present the other main findings on violence in Figures 2 and 3 and territorial presence in Figure 4 by plotting the trends of the Tijuana Cartel and its synthetic control, with robustness tests included in the Online Appendix. For every outcome, we find that the pre-treatment trends of the Tijuana Cartel and its synthetic control closely resemble each other, giving us confidence in the results.

Results show heterogeneous effects across outcomes. First, while homicides were increasing starting in 2008, they remained relatively stable with the ascension of Enedina but increased for

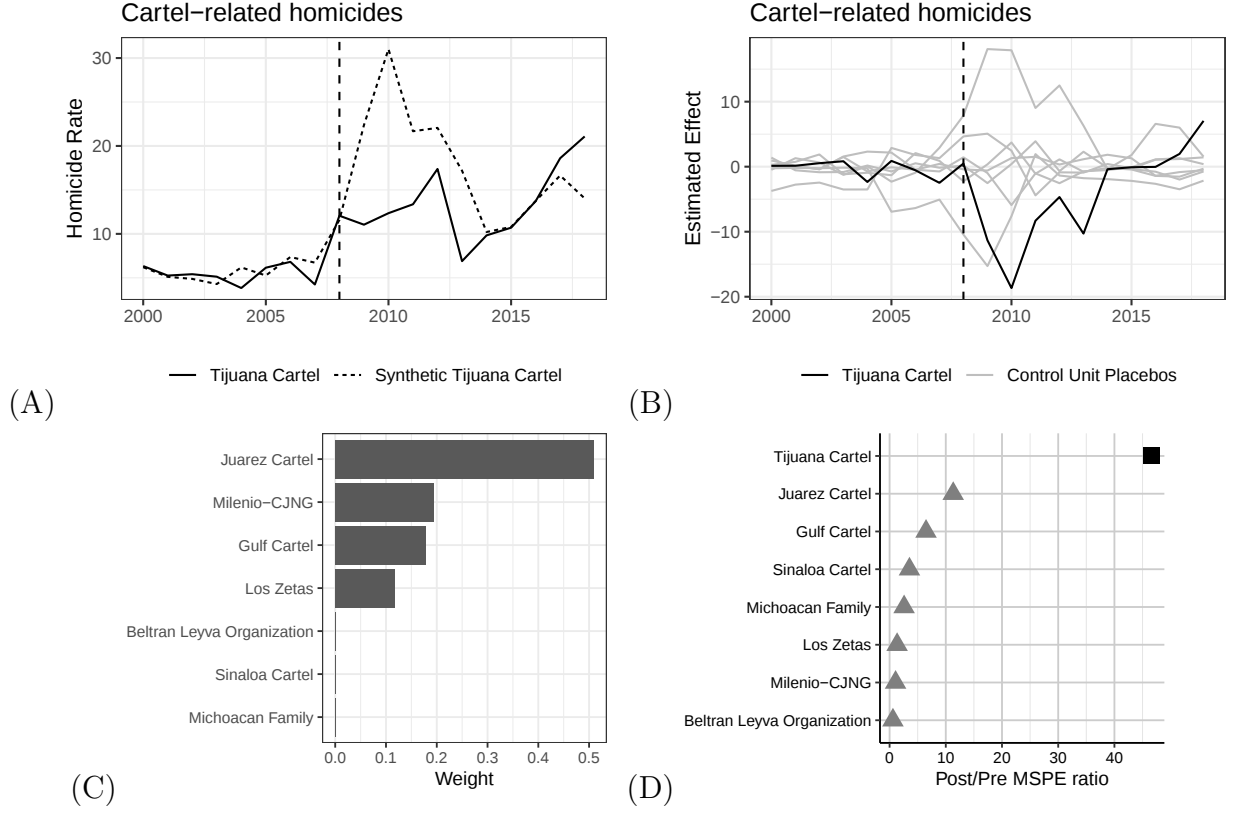


Figure 1: Results for cartel-related homicides. (A) Tijuana Cartel and synthetic control outcome trends. (B) Main effect and placebo effects. (C) Donor pool weights. (D) MSPE for treated and control units. Vertical lines in (A) and (B) denote last pre-treatment year.

the synthetic control. Homicides under Enedina remain lower than the synthetic control for six years, with a subsequent increase starting in 2016, which coincides with the restructuring of the Tijuana Cartel. Nevertheless, even considering 2014-2018, the negative effects of Enedina's reign are substantively large, with the mean cartel-related homicide rate in the post-treatment period being 13.5 for the Tijuana Cartel and 17.97 for the synthetic Tijuana Cartel. These results are robust to a series of tests. As Figure 1 shows, the synthetic control is a good fit according to the pre-treatment trends, the distribution of the placebo effects, and the MSPE ratio. Figure A3 in the Online Appendix shows they are also robust to leave-one-out and backdating tests.

Second, Figure 2 shows disappearances under Enedina seem to have increased much more than the counterfactual between 2011 and 2012 in the aftermath of the war against García Simental, suggesting she may have used less visible forms of violence to retake control over her territories. This indicates that Enedina is not incapable of coercion, but may instead prefers more subtle,

lower-profile violence. Yet, the overall effect is not particularly robust. At the same time, we also find that under Enedina's leadership, the use of narcomessages decreased in relation to the counterfactual by dozens of messages per year. This includes the period of the war and postwar when disappearances increase, suggesting a preference for less visible and public forms of violence.

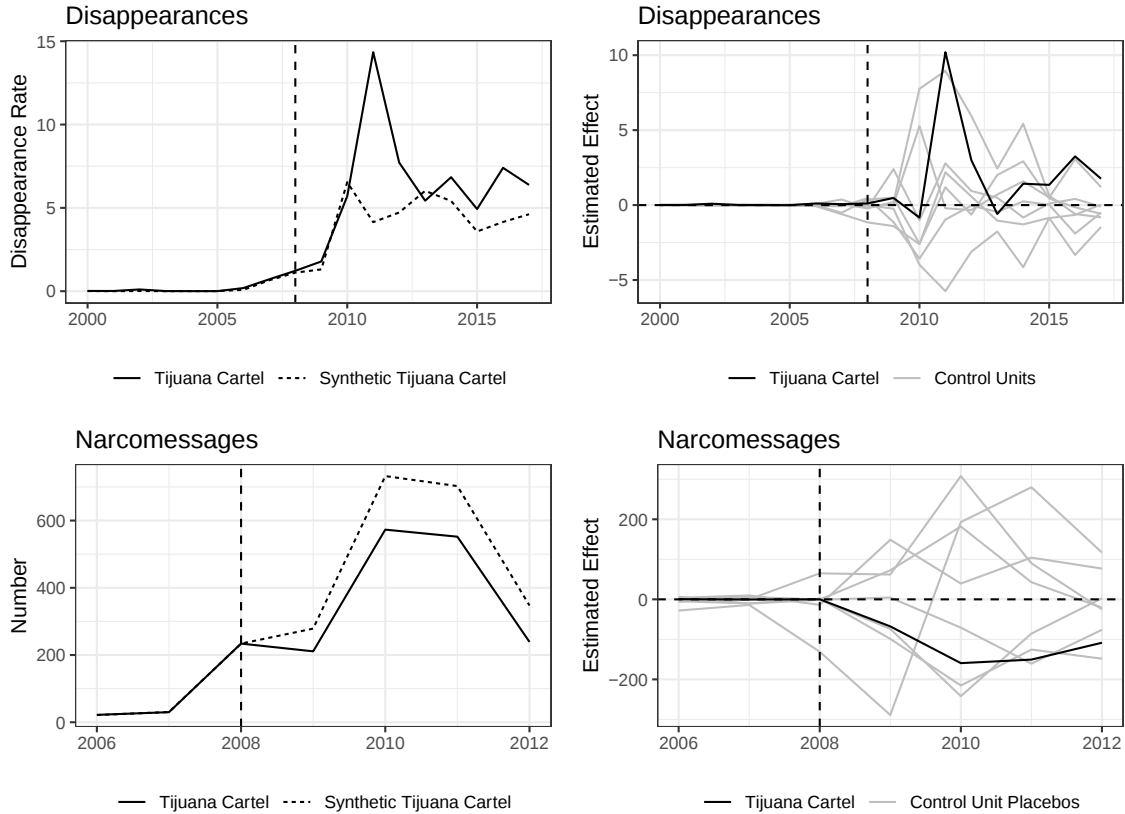


Figure 2: Results for disappearances and narcomessages. Left plots show trends for the Tijuana Cartel and its synthetic control. Right plots show estimated effect and distribution of placebos. Vertical line denotes the last pre-treatment year.

Third, we find that the Tijuana Cartel under Enedina is also associated with fewer homicides of young women during the first seven years of her leadership, with these homicides increasing significantly starting in 2016 (Figure 3), though the results are noisy and thus should be interpreted with caution. Before this sharp increase, the mean post-treatment homicide rate of young women was 0.9 for the Tijuana Cartel and 1.25 for the Synthetic Tijuana Cartel. The increase of violence against women occurs two years after the arrest of her nephew and instead coincides with Enedina decentralizing the Tijuana Cartel. Moreover, these results are not particularly robust, suggesting

that female leadership may be a less decisive factor in explaining violence against women and that empowering local male subleaders may inadvertently increase violence against women. However, the reasoning for this increase is unclear and could reflect various processes.

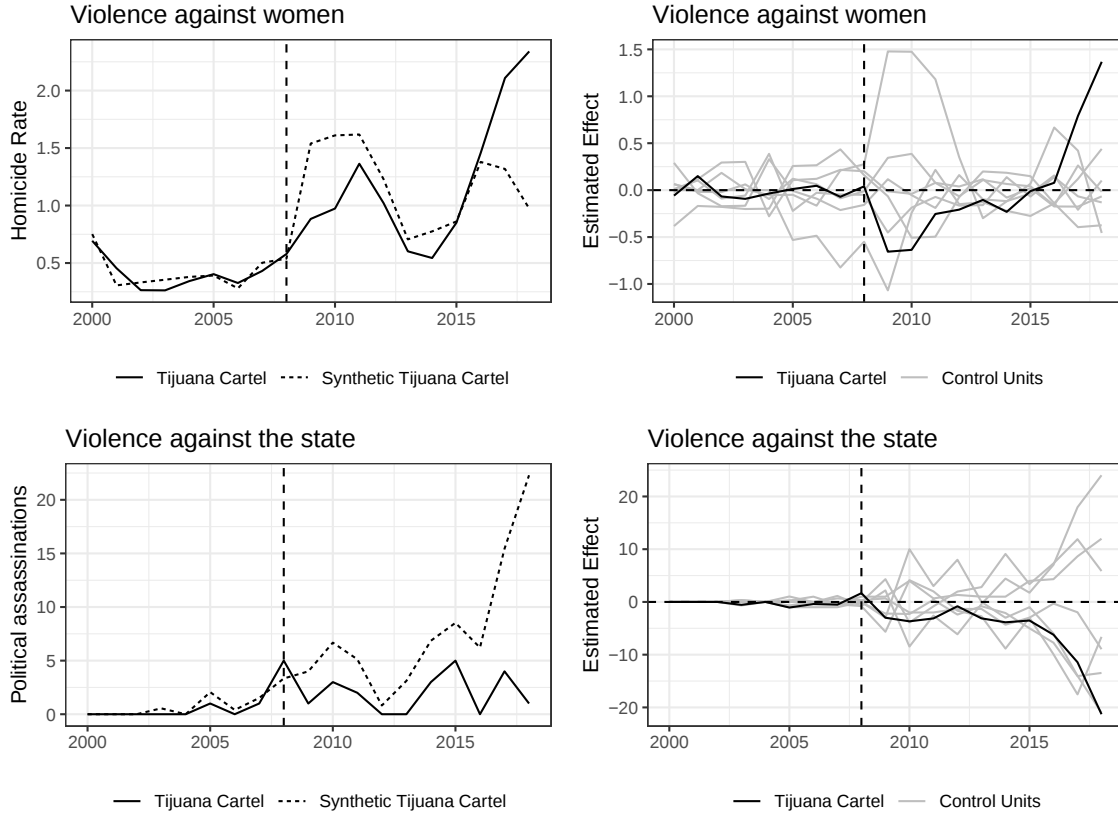


Figure 3: Results for violence against women and assassination of politicians. Left plots show trends for the Tijuana Cartel and its synthetic control. Right plots show estimated effect and distribution of placebos. Vertical line denotes the last pre-treatment year.

Fourth, results suggest that Enedina used less violence against the state, though these results are less robust given the small number of pre-treatment assassinations (Figure 3). Estimates suggest that Enedina's reign up to 2018 averaged 1.9 assassinations per year, while the counterfactual has a post-treatment mean of 7.9. These results may indicate both a less violent approach by Enedina and less scrutiny from the state. However, results on drug interdiction (see below) show no effect, casting some doubt on the latter.

Turning to territorial presence in Figure 4, results show a clear divergence, more than for other outcomes. The Tijuana Cartel did not expand geographically like other cartels under Enedina,

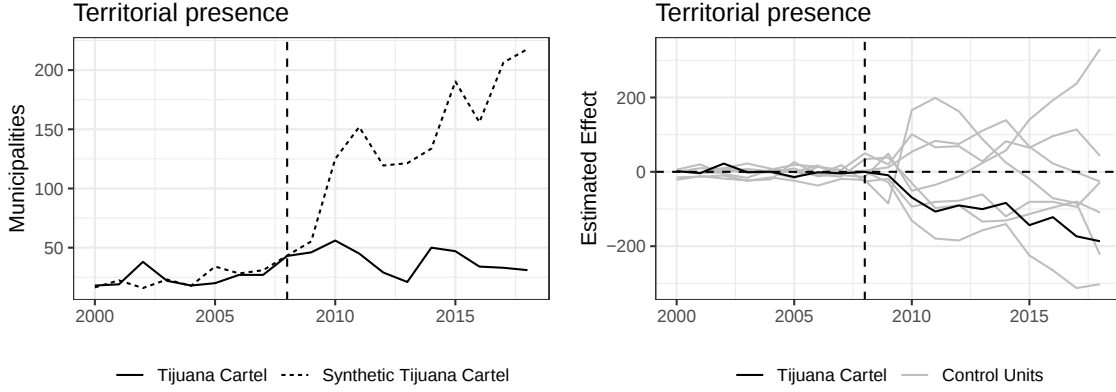


Figure 4: Results for territorial presence. Trends show the Tijuana Cartel and its synthetic control. Vertical line denotes the last pre-treatment year.

suggesting that they instead entrenched their presence and operations in their strongholds. This could be due to different explanations. It could reflect an explicit decision by Enedina to strategically remain in their strongholds, her inability to effectively use coercion to extend their territorial presence, male subordinates who wield coercive means refusing her orders to expand, or a weakening given the arrest of the last male sibling. Given the secretive nature of organized crime, it is difficult for to explore these explanations. However, we find no indications of internal mutinies, fragmentations, or new attacks from rivals. The results on disappearances also cast doubts on explanations based on inability to use violence, and those on on drug interdictions (see below) also suggest it was not due to declining business.

5.1 Investigating Gendered Mechanisms

The results indicate that the Tijuana Cartel under Enedina decreased visible forms of violence while increasing hidden forms of violence relative to male leaders. Existing research suggests that these differences are driven by gender shaping the trajectories and socialization of women leaders differently than male leaders. However, existing research largely highlights characteristics associated with women leaders without comparing them to *men* leaders to examine which are uniquely gendered. We address this limitation by collecting key biographical information on all 43 male cartel leaders in the treatment and donor pool between 2000 and 2018. Drawing on the theory, we identify whether each leader: entered their cartel through family, held violent roles pre-leadership, specialized in operational or management roles, rose the ranks or entered through privileged posi-

tions, reason for ascending to leadership, and inherited legitimacy when they gained leadership. We summarize the findings in Table 1 and include the disaggregated information on each male leader in the Online Appendix.

Table 1: Enedina Arellano Félix and men leaders (n=43) in Mexico, 2000-2018.

Variable	Enedina Arellano Félix	Male Leaders - General Pattern	% Similar to Enedina	% Different than Enedina
Entry into organization	Via family ties (brothers), in privileged position	Half also via family (though many not through privileged positions), others through other means	~51%	~49%
Pre-leadership violent roles	None (financial/logistical focus)	Most with violent/enforcer roles	~10%	~86%
Pre-leadership main roles	Finance, logistics, administration	Predominantly violent enforcement or traffickers	~10%	~86%
Path to leadership	Did not rise through ranks; took leadership through privileged position	Most rose through ranks, did not enter through privileged position	~14%	~86%
Inherited legitimacy	Yes, from family name and clan	Mixed: some inherited, others did not	~46%	~51%
Reason for ascendance	Ascended after capture/deaths of male kin	Many capture/death of relatives or bosses, others different reasons	~44%	~37%

Unsurprisingly, we find that male leaders are systematically different than Enedina across multiple characteristics but, surprisingly, share certain characteristics typically thought as gendered. We argue that this provides evidence about the specific gendered aspects of a leader’s trajectory likely driving the results. These findings help interpret the main results and shed new light on the gendered mechanisms underlying the effects on violence and territorial presence.

First, like Enedina, about half of male leaders enter organized crime through family members, succeed male kin, and inherit legitimacy from the previous male leader. These factors highlight that men leaders *also* often share these characteristics, that they are not uniquely gendered as some existing studies suggest, and are thus not factors driving the results.

Second, and most importantly, unlike Enedina, the vast majority of male leaders held violent roles and specialized in trafficking/enforcement pre-leadership rather than managerial or administrative positions, and fought their way up the ranks rather than entering through positions of relative privilege. We interpret this as evidence that the differences in violent and territorial patterns under Enedina compared to her male counterparts likely stem from pre-leadership differences

in violent expectations, violent socialization, and violent skill development.

5.2 Interpreting Results

Our results as a whole necessitate additional interpretation given that they do not uniformly follow the expectations laid out by existing research. Our SCM findings support the general expectations from existing research that women leaders use violence differently than men leaders, but also challenge these expectations because violence does not universally decrease under Enedina. Our results reveal that Enedina's leadership resulted in less *visible* forms of violence and limited geographic expansion, but briefly increased *hidden* forms of violence. Thus, insights from existing research may be more applicable to preferences over the use of *visible* violence rather than general preferences. Moreover, less visible violence increasing under Enedina contrasts research suggesting that women leaders are unable to use violence or that male subordinates may refuse to use violence on behest of a woman leader.

These findings problematize existing expectations by suggesting differences in preferences vis-à-vis male leader over *repertoires of violence* rather than overall violence. We interpret these results as Enedina having autonomy and using violence strategically (like male leaders are already assumed to), yet having markedly different strategic preferences than male leaders across *forms* of violence. The findings on the profiles of Enedina and male leaders indicate that these differences in preferences may in part stem from pre-leadership gendered socialization relating to violent expectations, violent socialization, and nonviolent skill development and *not* familial ties, succeeding male kin, or inheriting legitimacy from male kin.

5.3 Alternative Explanations

This section discusses alternative explanations. First, it could be that women gain leadership in organizations that are less violent, less militarized, or during periods of declining violence. This concern is addressed by the SCM, which accounts for pre-leadership outcome trends and leverages the arrest of a male leader. Substantively, Enedina rose to power amidst a deadly war and violence *increased* under her leadership, albeit less than the synthetic Tijuana Cartel. Moreover, the Tijuana Cartel was a male-ran organization that Enedina inherited, along with its coercive capacity, following the unexpected arrest of her brother.

Second, a decline in violence could reflect changes in reporting patterns, particularly if women leaders operate in ways that discourage publicized violence or gender biases reduce the likelihood of crime reports. Our use of homicide data mitigates this concern because it does not rely on reporting. Bias in reporting would only pose a problem if it systematically correlated with municipal cartel presence and did so differentially under Enedina’s leadership. We find this unlikely, and the fact that our two reporting-based outcomes—disappearances and narcomessages—move in opposite directions further strengthens our confidence that reporting bias does not drive the results.

Third, the results could instead reflect changes to the drug business or in drug enforcement against the Tijuana Cartel under Enedina rather than Enedina’s leadership. To test this, we measure changes in drug trafficking patterns and state enforcement against each cartel by using drug interdiction data from the Mexican military between 2000 and 2017 and calculating the number of kilograms of drugs seized per year in municipalities where each cartel was present. We create two variables: total amount of kilograms seized of all drugs and total kilograms seized of all drugs except marijuana since marijuana makes up the highest percentage. Online Appendix Figure A14 shows the null results, strongly suggesting that the main findings are not a consequence of the Tijuana Cartel trafficking fewer drugs or the government interdicting more of their drugs. One interpretation is that the rise of Enedina did not affect the government’s anti-drug operations in territories where the Tijuana Cartel operated. Alternatively, they could indicate that the Tijuana Cartel’s drug trafficking operations were unaffected by Enedina’s reduced violent behavior. If less attention was given the Tijuana Cartel with the rise of a woman to leadership and this resulted in a fewer proportion of their drug shipments being interdicted, they could also indicate that the Tijuana Cartel began trafficking *more* drugs under Enedina. Given existing data limitations, it is difficult to adjudicate between these interpretations.

Fourth, it could be that the rise of a woman leader led to defections, hindering the Tijuana Cartel’s violent capacity and territorial presence. However, despite Enedina’s tenure coinciding with a period of widespread cartel fragmentation throughout Mexico, the Tijuana Cartel did not experience any splintering under her rule. If fragmentation serves as a proxy for leadership effectiveness, its absence under Enedina suggests that her leadership was accepted and maintained strong internal cohesion. Since fragmentation often leads to violence, this could help explain the

lower levels of visible violence observed during her leadership.

Fifth, it could be that the findings reflect leadership transition effects rather than Enedina’s leadership. This would be puzzling given that existing literature finds that leadership transitions *increase* violence, and that the effects span multiple years rather than a transient effects. Moreover, male leaders *also* come to power through transitions and there are 41 male-to-male transitions in the donor pool, most during Enedina’s leadership period, strongly suggesting the results are not driven by leadership turnover. Empirically, we also account for this by including leadership transitions for all cartels as a covariate in the SCM. We also conduct backdating to address this concern by setting the treated period for the Tijuana Cartel two years earlier when another one of Enedina’s brother was arrested and a male sibling took power (see Online Appendix C). We find no differential use of violence 2006-2008 following the previous leadership transition, with the separation in outcomes only starting in 2009 once Enedina gained power.

Finally, it could be that Enedina was the last remaining in the Arellano Félix lineage and thus had to be more cautious and conservative when ruling. This is not supported substantively, as Fernando, her male nephew, and Alicia, her sister, were operating and central members of the Tijuana Cartel when Enedina came to power and reports point to at least three other nephews operating in central positions within the cartel. While Fernando was arrested in 2014, her sister and other male nephews continued supporting her, with Fernando rejoining the cartel in 2023 after his release from U.S. prison.

6 Probing Generalizability

While Enedina appears to illustrate the modal woman leader in existing studies, external validity questions remain. Moreover, because no systematic data on women criminal leaders exists, it is also unclear how Enedina compares to other cases. Ideally, we would replicate our quantitative analysis across multiple women leaders to directly assess generalizability. However, comparable outcome data for other cases does not exist. Although we cannot formally test whether the violent and territorial effects we estimate for the Tijuana Cartel under Enedina generalize, we explore its plausibility by assessing whether Enedina’s gendered attributes are also present in other women

leaders. To the extent that other women leaders exhibit similar gendered characteristics as Enedina, then they resemble our treated unit, plausibly suggesting that comparable treatment effects may theoretically expected.

To conduct this exercise, we create an original dataset of women leaders through extensive qualitative research. We identify 44 women leaders in organized crime spanning 6 continents and 18 countries since 1850 and construct case studies of each to collect key gendered characteristics the literature associates with the violent behavior of women leaders. To our knowledge, this is the most comprehensive data on women leaders in organized crime.¹³ The Online Appendix includes details on case selection, inclusion criteria, sources for each case study, and potential impacts of gender bias in our sources.

Our data on women leaders includes the following variables: *Background information*: i) Country of operation and name of organization, if applicable, ii) leadership period, iii) main illicit market of their organization, and iv) their organization’s reach.¹⁴ *Entry*: i) Was their entry into organized crime through a (male) kin or self-initiated. *Pre-leader roles*: criminal organization. i) Whether they held positions involving the exercise of violence during their criminal career, and ii) their position or occupation before assuming leadership. *Leadership*: i) Whether they had an important male right-hand, and ii) whether their leadership was viewed as legitimate due to kinship ties with the previous leader, and if so, who they inherit this legitimacy from. We do not collect information on their violent behavior because we found reporting on women leaders to be highly biased, particularly on hard-to-measure characteristics such as reputation and perceived violent behavior.¹⁵ Table 2 summarizes the findings following the format of Table 1. Online Appendix Table A5 presents the disaggregated data for each woman leader including all variables.

Our findings are conclusive and unambiguous. Gender profoundly shapes women’s trajectories to leadership by largely limiting it to two main pathways: inheriting power from male kin or, unexpectedly, founding their own criminal organization. In our data, 38 of the 44 women leaders

¹³Gillespie et al. (2024) offer the most comparable dataset on “36 female drug lords.” However, their dataset primarily includes non-leadership high-level women, whereas ours exclusively features women *leaders*. We also include women leaders in markets beyond illicit drugs.

¹⁴We roughly categorize the “reach” of each criminal organization into limited, moderate, and extended based on the size of their market, membership, geographic reach, and influence.

¹⁵While we would ideally measure other factors from the theory, including violent expectations and gender bias by law enforcement, data limitations prevent us from doing so.

Table 2: Enedina Arellano Félix and women leaders worldwide, separated by inheritors (n=20) and founders (n=20).

Variable	Enedina Arellano Félix	Inheritors: % Similar to Enedina	Founders: % Similar to Enedina	How Founders Differ
Entry into organization	Via family ties (brothers), privileged position	100%	20%	Most self-initiated, those with family ties (4) do not enter with privileged positions
Pre-leadership violent roles	None (financial/logistical focus)	90%	10%	Most involved in non-violent petty crime
Pre-leadership main roles	Finance, logistics, administration	85%	25%	Most involved in petty crime
Path to leadership	Did not rise through ranks; took leadership via privileged position	100%	0%	Founded criminal group, 2 co-founded and took over male kin
Inherited legitimacy	Yes, from family name and clan	90%	15%	Most created own legitimacy
Reason for ascendance	Ascended after capture/deaths of male kin	90%	10%	Founders of own criminal organization

Notes: Founders include two cases of women co-founding criminal organization with male kin then inheriting leadership from them. We exclude the one case of a woman forcibly taking leadership from male kin and three cases of women rising ranks from this table.

fit this pattern, two exhibit a hybrid pattern of co-founding a criminal organization with a male kin before inheriting leadership from them, three rise ranks to leadership—though two do so within the same all-female organization—and one forcibly seizes power from her male partner.

Centrally, the 20 women who attain leadership following the arrest or death of a male kin have trajectories that closely mirror that of Enedina Arellano Félix: they enter organized crime due to a male kin, exercise influence through male kin prior to leadership, occupy relatively privileged positions within the organization, often hold gendered, nonviolent roles, and tend to take over powerful and well-established criminal organizations. These findings span countries, types of criminal organizations, illicit markets, and historical periods. This pattern strongly suggests that our findings plausibly extend to women who inherit leadership.

In contrast, the 18 women who founded their own criminal organizations typically begin as low-level offenders, lack positions of privilege or high-level connections, often experiencing private violence, and rise to leadership by establishing and building their own enterprises. Not only do these leaders necessitate further research as they are largely excluded from existing research,¹⁶ but they delineate a clear scope condition for our findings.

¹⁶Women founders are also overlooked in the rebel group literature, with [Loken \(2024\)](#) only recently identifying nine cases. Interestingly, these differ from criminal founders as they are largely women with relative privilege.

Taken together, these patterns clearly underscore the importance of gender in organized crime by shedding light on the structural barriers limiting women’s ascension. Without male familial connections to leverage and crises that hinder male leadership, breaking the glass ceiling in patriarchal criminal structures remains nearly impossible.

7 Conclusion

This article analyzes the impact of women’s leadership in organized crime. Focusing on the Tijuana Cartel in Mexico and the ascension of Enedina Arellano Félix to leadership following the arrest of her brother in late 2008, we show that Enedina’s leadership resulted in less *visible* forms of violence and limited geographic expansion, but briefly increased *hidden* forms of violence. Original data on all male cartel leaders in Mexico shows systematic gender differences in pre-leadership violent socialization help explain the results. Through 44 case studies of women leaders in organized crime around the world, we find that those who succeed male kin closely resemble Enedina, suggesting that our results may generalize to these cases.

This article advances existing scholarship by bringing attention to gender and gender dynamics within organized crime. It provides the first, to the best of our knowledge, quantitative analysis on the effects of leadership and women involvement in organized crime. It is also one of the first studies in political science on gender in organized crime despite the topic gaining increasing attention, ample anecdotal accounts of women involvement, frequent mentions of the hypermasculinity underpinning organized crime, and the common nexus between organized crime and gender-based violence. We also identify a pathway to leadership largely neglected in existing research: women establishing their own criminal organizations. These women differ systematically from those who inherit leadership from male kin and represent an important avenue for future research. Finally, while this article focuses on the violent and territorial consequences of women leadership, their leadership likely matters for other important outcomes that future research could investigate, such as internal governance, market governance, and civilian governance. Explicitly recognizing the degree to which organized crime is a patriarchal and masculine space unequivocally helps us better understand the phenomenon and offers a much-needed addition to existing research that often

leaves gender dynamics implicit or simply excludes them.

Our results also speak to policy. First, they urge policymakers to consider successors when planning leadership decapitation operations, as their characteristics—like gender—likely matter for the violent consequences. More broadly, given the key but less visible roles women often have, policy would benefit from a gendered perspective. Beyond women, addressing the hypermasculinity associated with violent behavior by *men* in these organizations may yield positive spillover effects on violence, women members, and potential women victims.

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