**The Impact of Feminist Framing on Emotional Violence Recognition in Mexico**

Candidate Number: 38677

Capstone Project

MSc Applied Social Data Science

Department of Methodology

The London School of Economics and Political Science

**August 2025**

Word Count: 9,881

**Abstract**

In Mexico, emotional violence in intimate relationships affects nearly half of women aged 15 and older, yet many fail to recognise these behaviours as violence. This “recognition gap” is more than a matter of wording, it determines whether abuse is challenged or normalised. Between 2016 and 2021, feminist movements and digital campaigns radically expanded public conversations about gender-based violence, but their effect on women’s interpretations of emotional abuse remains unknown.

This study compares nationally representative data from the 2016 and 2021 Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares (ENDIREH) to assess changes in the recognition and normalisation of emotional violence. Recognition is operationalised as rating experienced abusive acts as “serious,” and normalisation as rating them “not important.” Using logistic regression, profile gap analysis, and a difference-in-differences design focus on Mexico City, the epicentre of feminist mobilisation, the research examines how trends vary by age, education, digital access, and geography.

Results show a modest national decline in normalisation and a rise in recognition, but gains were uneven. Older women in “disadvantaged” profiles often reported higher recognition than younger, digitally connected women, suggesting that life stage and severity may influence interpretation more than connectivity alone. Mexico City recorded a significantly larger increase in recognition compared to other states, consistent with concentrated activism, although causality cannot be inferred.

These findings point to the need for prevention strategies tailored to younger cohorts and digitally mediated behaviours, and for adapting successful frames from Mexico City to other regions. By quantifying the gap between experiencing and naming emotional abuse, this study offers an empirical tool for monitoring change and evaluating the impact of feminist discourse in reshaping the boundaries of what counts as violence.

**Keywords**: Emotional Violence Recognition, Psychological Abuse, Gender-based Violence, Violence Normalization, Feminist movements, Digital Activism, Education and awareness, Mexico – ENDIREH, Intimate Partner Violence.

1. **Introduction**

In Mexico, half of women aged 15 and older report having experienced emotional violence (INEGI, 2021), yet only a fraction recognises it as such. This gap between lived experience and recognition lies at the heart of one of the most persistent challenges in addressing gender-based violence: the invisibility of emotional abuse. While feminist movements and digital campaigns have broadened public discourse in recent years, emotional violence remains deeply embedded in cultural narratives that romanticise control, jealousy, and manipulation. Understanding who recognises these behaviours, and who does not, is essential for designing interventions that can dismantle their normalisation.

In recent years, feminist movements and digital activism have expanded the public discourse in Mexico to include not only physical and sexual violence, but also psychological, economic, and symbolic forms of harm. In 2020, mass mobilisations such as the 8M marches, Un Día Sin Nosotras, and online campaigns like #MeToo brought unprecedented visibility to emotional abuse and coercive control. These efforts, especially on platforms like TikTok and Instagram, introduced new narratives that challenged romanticised ideas of jealousy, manipulation, and surveillance. Feminist influencers, NGOs, and collectives developed digital content including memes, story templates, and testimonial videos that provided language and tools to name emotional abuse. Despite this cultural shift, there is still limited empirical research on the impact of these movements: specifically, on how they have affected women’s ability to recognize emotionally abusive behaviours as violence.

This research emerges from a personal and professional commitment to improving how violence is understood and addressed. As the co-founder of a digital chatbot designed to help young people identify healthy and unhealthy relationship dynamics, I have seen firsthand how difficult it can be for women to recognize emotional abuse, particularly when it is framed as affection or protection. This confusion between harm and love is one of the main reasons why emotional violence remains invisible, both to victims and to institutions.

The objective of this research is to assess the extent to which feminist movements and digital campaigns have influenced Mexican women’s ability to recognize emotional violence in intimate relationships. Using data from the National Survey on the Dynamics of Household Relationships in Mexico (ENDIREH) from 2016 and 2021, the study identifies the percentage of women who report experiencing specific actions that meet definitions of emotional abuse, but who do not consider them serious, instead responding that such behaviours are unimportant. It then examines how sociodemographic factors such as age, education, and geography correlate to this under-recognition, and how these dynamics have shifted between 2016 and 2021 in the context of intensified feminist movements and public discourse, identifying which groups were most affected. In doing so, the project contributes to broader conversations about data justice, gender inequality, and the limitations of awareness campaigns when structural and cultural barriers to recognition persist. The space between experience and recognition is where this research is grounded.

By focusing on recognition, not just prevalence, this project offers a new lens through which to understand how gender-based violence operates at the intersection of lived experience and public discourse. It highlights how feminist movements have reshaped cultural understandings of abuse, and how these shifts are reflected, or not, in women’s interpretations of their own experiences. Ultimately, this research can inform the design of intimate partner emotional violence related interventions that are more precisely tailored to the sociodemographic groups who remain least likely to recognise emotional abuse, thereby increasing their effectiveness. It also lays the groundwork for future evaluations, particularly in the context of the upcoming 2026 round of ENDIREH.

To date, no published studies have used ENDIREH 2021 data in direct comparison with the 2016 wave to assess the potential influence of feminist activism and public awareness campaigns in Mexico on women’s recognition of emotional violence. This study is the first to adopt this approach.

**1.1 Research Question**

"To what extent, and for whom, have feminist movements and digital prevention campaigns improved the recognition of emotional violence among Mexican women?"

Answering this question is important because it moves beyond documenting prevalence to examine whether cultural and feminist interventions are reshaping how women themselves interpret and name violence, a shift that determines whether abuse remains normalised or becomes contestable.

**1.2 Hypothesis:**

H1. Feminist movements and digital prevention campaigns between 2016 and 2021 contributed to a shift in how women in Mexico recognise emotional abuse in intimate relationships.

* Younger and more educated women with greater digital access are more likely to identify abusive behaviours as violence, whereas older, less educated women and those with limited internet access are more likely to misrecognise or normalise them, as feminist movements and digital campaigns have primarily targeted the former group.
* Mexico City exhibits a lower proportion of unrecognised emotional violence in 2021 compared to other regions due to the strength and visibility of feminist movements in the capital.

1. **Literature Review**

**2.1 Emotional Violence as an Underrecognised Form of Abuse**

*Definitions and effects*

Intimate Partner Violence (IPV) encompasses any behaviour by a current or former partner that causes physical, sexual, or psychological harm. This includes acts of physical aggression, sexual coercion, emotional abuse, and controlling behaviours (World Health Organization, 2021). While physical IPV tends to be more visible and reported, psychological and emotional forms of IPV are often hidden, subtle, and chronic.

"Emotional violence" and "psychological violence" are often used synonymously, referring to non-physical behaviours intended to control, isolate, or harm another person's emotional state and psychological wellbeing. While some differentiate them by suggesting that psychological violence is a more specific form of emotional violence, the core impact on the victim's mental health and sense of self remains similar.

The World Health Organization (WHO, 2021) defines emotional abuse as the intentional use of verbal and non-verbal acts such as humiliation, intimidation, isolation, and threats, aimed at hurting or controlling a partner. Scholars emphasize that these actions must be viewed not as isolated incidents, but as sustained patterns of domination.

Long-term psychological effects of emotional abuse are profound although there are no physical wounds. Women who have experienced emotional abuse often experience depression, anxiety, post-traumatic stress disorder (PTSD), and diminished self-esteem. Victims describe their wounds as ‘invisible,’ with trauma that persists long after physical violence ends. This is a form of psychological entrapment, in which the victim is manipulated into doubting her own perceptions and sense of reality (Ali & Naylor, 2013; Sweet, 2019).

*Recognition*

While many women experience emotionally abusive behaviours within intimate relationships, not all interpret these experiences as violence. Understanding why some women do not label emotionally abusive behaviours as violence is key to addressing its invisibility. As Hamby and Grych (2016) explain, recognition is not merely about the presence of harm, but about having the language, cultural framing, and psychological safety to name that harm. Abuse in relationships often begins with psychological violence, which can be difficult to detect because it is frequently disguised as affection or concern, even when it manifests as controlling or restrictive behaviours. The *Violentómetro* framework, developed by the Instituto Politécnico Nacional, illustrates how behaviours often dismissed as minor such as hurtful jokes, jealousy, or manipulation, can escalate in stages into more severe forms of abuse, including physical and sexual violence, if left unchallenged (Freyre, Bringas & Boix, 2021). This progression highlights the importance of early detection and of ensuring that women recognise these early-stage behaviours as violence before they escalate into more severe forms.

Another critical distinction in the recognition of emotional violence lies in whether the abuse is truly invisible or simply unacknowledged by the social environment. Gracia (2004) emphasizes that underreporting does not always imply unawareness, as violence may be known by others, but social norms, fear of involvement, or the privatization of family issues prevent action. In many cases, people close to the victim, such as friends, neighbours, or relatives, may recognise the harm but choose silence. This social silence contributes to low recognition rates at both the individual and community level, allowing emotional violence to remain hidden in plain sight. Supporting this, a Eurobarometer survey by the European Commission found that 10% of respondents knew a woman affected by domestic violence in their workplace, 18% in their neighbourhood, and 24% in their family or friend circle. Likewise, many acknowledged knowing perpetrators in the same settings (European Commission, 2016).

A study by Anglin & Mitchell (2004) points out that many people consider intimate partner violence (IPV) primarily in cases involving physical injuries but often overlook its less visible manifestations. The authors argue that “patients with an acute IPV injury represent the tip of the iceberg,” while many others seek care for unrelated symptoms that are complications of prior physical, sexual, or emotional abuse. In this context, they introduce the iceberg model to illustrate how most violence remains submerged and invisible, unrecognised, unmeasured, and untreated.

A diagram of a triangle with text

AI-generated content may be incorrect.

**Figure 1**

Figure 1 is a model adapted from Gracia (2004) and illustrates how only the most severe and visible forms of violence, such as reported cases and feminicides, appear above the surface. Beneath the waterline lies the far larger, invisible portion: unreported cases, emotional abuse, and victims silenced by fear, shame, or economic dependency. Social silence and cultural norms further reinforce this invisibility. The distinction highlights that recognition is not only about individual awareness but also about whether violence is acknowledged, or silenced, by the wider social environment.

Surveys by the World Health Organization (WHO, 2021) estimate that around 40% of women worldwide have experienced emotional or psychological violence. However, this figure only reflects those who both experienced and recognised such behaviours as violence, meaning the actual prevalence is likely much higher. This gap between experience and acknowledgement is precisely what recognition-focused research seeks to uncover.

As D’Ignazio and Klein (2020) argue in Data Feminism, what is not measured is often treated as non-existent. Emotional abuse, because of its intangible and relational nature, has historically been excluded from official data collection, legal frameworks, and public health strategies. This exclusion reflects injustice: a failure to recognise and validate forms of suffering that fall outside dominant norms of what violence ‘should’ look like. As a result, emotional violence is often not perceived as serious, either by institutions or by the women who experience it, further reinforcing its invisibility and normalisation. Without improving recognition, such violence will continue to be excluded from institutional responses and policy priorities.

By examining not only the prevalence of emotionally abusive behaviours but also the extent to which they are recognised as violence, this study addresses a critical blind spot in both research and policy. Measuring recognition allows us to capture the invisible, where harm is experienced but unnamed, and to identify the sociodemographic and contextual factors that shape this gap. In doing so, the analysis contributes to making emotional violence visible, challenging its normalisation, and informing interventions that promote early detection and prevention.

*Approaches*

To better capture the recognition gap of emotional violence, researchers have adopted multiple methodological approaches. Vignette-based surveys, where participants are presented with hypothetical relationship scenarios, have been used to assess how serious women perceive violence (Erickson, Jonnson, Langille, & Walsh, 2017). These designs allow researchers to isolate interpretation from experience.

Lists experiments, also indirect questioning, have emerged as a quantitative tool for reducing social desirability bias in survey responses. Participants are presented with several non-sensitive statements and asked how many, not which, apply. A subgroup receives an additional sensitive item (e.g., a question about emotional or intimate partner violence). The difference between groups allows researchers to estimate the prevalence of sensitive behaviours without requiring direct disclosure. Gilligan et al. (2025) found that, in Ethiopia, prevalence estimates of intimate partner violence using a list experiment were unexpectedly lower than those from direct questions, potentially due to ‘fleeing’ behaviour by respondents avoiding any association with violence. These findings underscore the complexity of measuring emotional violence, and the need for tools that account for social and psychological barriers to recognition.

While much of the existing literature on recognition relies on hypothetical scenarios or indirect questioning, this study draws on the unique structure of the ENDIREH survey, which first asks women directly whether they have experienced specific emotionally abusive behaviours and then follows with questions about how they perceived those experiences. This design makes it possible to compare lived experience with subsequent interpretation, providing a direct measure of whether women recognise the severity of behaviours they have endured. In doing so, the analysis captures not only the prevalence of emotional violence but also the proportion of cases that remain unrecognised, offering valuable insight into the persistence of its invisibility.

**2.2 Mexico**

Intimate partner violence (IPV) is the leading cause of violence against women in Mexico. Emotional abuse in this context must be understood within the broader framework of structural machismo and deeply entrenched gender norms. Cultural expectations often tie women’s worth to their ability to maintain harmony within relationships, even at the expense of their own wellbeing (Lagarde y de los Ríos, 2005). This ideology not only legitimizes male control and jealousy as signs of love but also silences women’s experiences of harm by framing endurance as virtue.

As Aguayo (2011) notes, these machismo ideologies are perpetuated through institutions such as family, religion, and media, where women are socialized to accept pain in silence and men are rarely held accountable for controlling behaviours. In this context, emotional violence thrives not in isolation but as part of a system that continuously reinforces gendered power imbalances.

According to the National Institute of Statistics and Geography (INEGI, 2013), intimate partner violence in Mexico is often reproduced as a normalised form of coexistence, justified by prevailing cultural and social norms. However, the recognition of this issue depends largely on the woman's perception of the situation, as in many cases, women who experience violence believe they deserve the abuse they receive.

Research in Mexico has identified several sociodemographic and relationship characteristics associated with a higher risk of intimate partner violence. Younger women, those with limited formal education, and those from lower socioeconomic backgrounds are more likely to experience abuse. The risk also increases when their partners are younger, engage in controlling behaviours, misuse alcohol or drugs, have a history of violence, or are unemployed (Torres Munguía & Martínez-Zarzoso, 2022).

*Key Mobilisations*

In recent years, feminist activism in Mexico has played a pivotal role in reshaping public discourse on gender-based violence. Feminist mobilisations like 8M, Me Too and Un Día Sin Nosotras have brought together large numbers of people across Mexico and helped expand the conversation on violence beyond physical and sexual harm to also include emotional, symbolic and economic forms. This broader approach was first outlined by feminists such as Marcos (1999) and is supported by more recent research (Alcaraz Alonso et al., 2022). These mobilisations have been especially impactful among younger generations, whose engagement with feminist narratives on platforms like TikTok and Instagram has brought emotional abuse into the cultural mainstream (Cerva Cerna, 2020).

Mexico City has served as the epicentre of feminist mobilisation and discourse in Mexico. The first mass demonstrations in Mexico were 8M on 8 March, International Women’s Day and took place in response to machismo violence in the country. However, it was not until 2018 that the movement gained viral momentum, evolving into a digitally empowered fourth wave that reframed the public conversation around gender-based violence. This wave, characterized by the strategic use of social media and online platforms, expanded feminist discourse to include not only physical and sexual violence, but also emotional, psychological, economic, and symbolic harm (Ortolá, 2022).

Feminist influencers and collectives used platforms such as Instagram, Twitter, and TikTok to circulate educational content, survivor testimonies, and interactive tools to identify abuse, often reaching millions of users (Ramirez Ruiz, 2024). This digitally driven activism was closely linked to large-scale offline activism, including the 8M marches, which drew over 80,000 participants in 2020 in Mexico City, and the national women’s strike *Un Día Sin Nosotras* held the following day (El Universal, 2025).

Although the 2021 march saw reduced attendance (around 20,000 people) due to COVID-19 restrictions, the feminist conversation remained active online. Scholars and journalists have noted that this new wave of activism not only made emotional violence more visible but also introduced a new vocabulary to interpret and name previously normalised behaviours.

A graph of colored lines

AI-generated content may be incorrect.

**Figure 2**

*Figure 2* shows Google Trends search interest for key feminist mobilisation terms between 2015 and 2022. The visible spikes correspond to major events such as the viral spread of #MeToo in 2018, the mass protests of March 2020, and the continued online discourse during the COVID-19 pandemic. These patterns illustrate how public attention to feminist issues intensified during this period, providing a strong rationale for examining the 2016 and 2021 ENDIREH waves as a before-and-after comparison.

Hashtags have provided survivors with language to name their experiences and foster solidarity through storytelling, memes, and feminist humour. Salinas and Cortes (2021) show that such cultural production can help dismantle romanticised notions of control and jealousy, especially among adolescents in Mexico. Still, virality does not guarantee transformation.

Alongside mass mobilisations, new digital resources have emerged to provide direct, individualised support to women. *Violetta*, a Mexico-developed chatbot, offers confidential guidance, screening, and referrals for gender-based violence via web and messaging apps, translating feminist discourse into accessible, on-demand support (Lagos, 2024). Since its launch, Violetta has supported more than 250,000 women in Mexico, over 70% of whom are young, providing them with language, examples, and practical tools to recognise and respond to emotional abuse (Cabrera, 2024).

A diagram of a person's protest

AI-generated content may be incorrect.

**Figure 3**

Figure 3 presents a timeline of major feminist mobilisations and digital activism in Mexico between 2015 and 2021. It highlights the progression from initial protests against feminicide to broader feminist agendas that increasingly incorporated emotional and psychological violence.

Mexican feminist scholars have long called attention to the limitations of institutional recognition. Garcia (2025) argue that the Mexican state only began addressing emotional abuse and femicide after sustained pressure from autonomous feminist movements. This historical pattern underscores that the exclusion of emotional violence from legal and policy frameworks is not a passive omission, but an active reflection of patriarchal priorities.

While the literature documents the chronology and impact of feminist mobilisations, there is no quantitative evidence linking these cultural and political shifts to changes in how women identify intimate partner emotional violence. This research bridges that gap.

*Relevant studies*

The growing visibility of emotional violence in Mexico reflects not only rising prevalence but also an increase in women’s capacity to recognise and name these experiences. In a 2021 press conference, Alejandra Ríos, emphasized that the most recent wave of the ENDIREH recorded the highest prevalence of violence since the survey’s inception in 2006. She attributed this increase, particularly in sexual, psychological, and community-based violence, to greater public awareness and women's growing willingness to report such experiences, likely influenced by the dissemination of rights-based discourse.

According to INEGI (2018), emotional violence affects a higher proportion of women in Mexico than either physical or sexual violence. Despite this, emotional abuse remains significantly less likely to be acknowledged or reported. This under recognition is especially evident among adolescents. Bosch and Ferrer (2010) describe the “myth of jealousy,” which portrays jealousy as a sign of true love. This belief can serve to justify repressive behaviours, such as phone surveillance, social isolation, or other controlling actions, ultimately contributing to the normalisation of these behaviours within intimate relationships. The lack of formal emotional education in Mexican schools exacerbates this problem, leaving many adolescents without the tools to identify abusive relationship dynamics.

Jiménez (2022) used ENDIREH 2021 to question whether the rise in reports of emotional violence reflects a real increase or a greater ability to recognise it. By focusing on retrospective accounts of childhood abuse, the authors argue that the 6% increase in psychological violence reports likely signals a cultural shift in awareness, rather than changes in actual conditions, supporting the idea that recognition evolves over time.

Strasser Ceballos and Haensch (2021) conducted a machine learning analysis of psychological intimate partner violence (IPV) using ENDIREH 2021 and 2016, they found that childhood exposure to violence, both by the woman and her partner, was a key predictor of experiencing psychological IPV. Factors such as age, age at sexual initiation, women’s autonomy over economic and professional decisions are contributing factors to IPV of women with children (Torres Munguía & Martínez-Zarzoso, 2022).

Despite progress in public awareness, empirical studies that analyse the gap between experiencing and recognizing emotional violence remain limited, especially in Mexico. Existing research has tended to focus on prevalence or on survivors’ narratives, without linking these insights to large-scale patterns of misrecognition.

While ENDIREH has been widely used to study emotional violence, few analyses have measured the gap between experiencing and recognising it or linked this gap to recent feminist mobilisation and rights-based discourse. Using ENDIREH’s paired questions on specific behaviours and their perceived severity, this study quantifies misrecognition nationally and situates it within Mexico’s changing social context, offering insights to inform awareness and prevention strategies.

**2.3 Sociodemographic Factors**

*Age*

Feminist activism resources are widely spread through digital platforms and social media, making age an important contributing factor to the recognition of abusive behaviours (Mendes, Ringrose, & Keller, 2019). Adolescents and young adults are particularly vulnerable to under recognised emotional violence, as they often internalize cultural myths of romantic love such as jealousy as a sign of commitment or control as a form of affection (Lozano et al., 2024). Francis and Pearson (2021) argue that young women, despite being more exposed to emotionally abusive behaviours, are frequently less likely to identify them as harmful.

Young people increasingly engage with digital spaces where contradictory messages about relationships abound (Van Ouytsel et al., 2019), ranging from feminist educational content to romanticised portrayals of control and jealousy (Salinas & Cortes, 2021). While access to social media can promote awareness, it can also blur boundaries between love and violence, leading to confusion and normalisation.

Aday et al. (2017) and Storey et al. (2024) show that older adults are more likely to avoid reporting psychological violence due to deeply rooted cultural norms, loyalty to family structures, or lack of exposure to modern definitions of abuse. Traditional gender roles and generational silence surrounding intimate relationships can reinforce these patterns, especially in communities where questioning a partner’s behaviour is socially discouraged (Montminy, 2005).

Adolescents may normalise harm due to romantic myths or peer influence that they see online in social media platforms (Lozano, 2024), whereas older women may not recognise past abuse unless prompted by specific survey questions (Aday et al., 2017). This reinforces the importance of contextually grounded interventions that consider age-specific barriers to recognition.

*Education*

According to Khan & Qian (2021), women with greater educational exposure are significantly less likely to justify intimate partner violence in Bangladesh. This suggests that education fosters interpretive capacity, enhances critical thinking around gender roles, and increases self-efficacy in identifying abusive behaviours.

Similar findings have been observed in global demographic surveys, where higher levels of formal education correlate with reduced acceptance of emotional control and greater recognition of psychological abuse (Council of Europe, 2022). Women with lower levels of education may lack the vocabulary, resources, or confidence to name their experiences. This does not reflect a personal shortcoming, but rather structural barriers to recognition and support.

In the aftermath of the #MeToo movement in Mexico, March 2019 marked a turning point in university spaces, as dozens of students publicly shared testimonies of abuse and harassment by teachers and classmates (Rovira-Sancho, 2021). This surge in feminist activism catalysed the formation of student-led collectives that remain active today, with some faculties of the Universidad Nacional Autónoma de México (UNAM) even undergoing feminist-led shutdowns at the time of writing. These collectives have not only challenged institutional inaction but also redefined what counts as violence, explicitly naming emotional and psychological harm in their demands.

Actions such as the *tendedero* (clothesline protest), where women anonymously post experiences of violence besides the name and picture of the person who abused them, including manipulation, gaslighting, and verbal degradation, have helped surface forms of emotional abuse often dismissed as private or insignificant in different schools and universities in Mexico (Cerva Cerna, 2020). Education is a double site of transformation. It operates not only as formal access to knowledge but also as a political and cultural space where feminist discourses equip young women to recognise and resist normalised violence.

*Geographic location*

The strength of feminist movements in Mexico is unevenly distributed across regions, with the most visible and organized activism concentrated in urban centres like Mexico City, Guadalajara, Monterrey, Puebla, and Mérida. Mexico City hosts the country’s largest 8M marches and is home to most feminist NGOs, university collectives, and awareness campaigns. In these urban areas, women are more likely to encounter feminist discourse that names emotional and psychological abuse, which contributes to higher levels of recognition (Álvarez Enríquez, 2020).

Although emotional and economic violence are often assumed to be more hidden in traditional or rural settings, findings from ENDIREH suggest otherwise. According to official analyses, urban women are 1.3 times more likely to experience emotional violence compared to women in rural areas (INEGI, 2021). This higher prevalence in urban areas may reflect both greater exposure to controlling behaviours and a higher likelihood of recognizing and reporting such behaviours due to broader access to information, education, and institutional support. These results challenge the common assumption that rural women are necessarily more vulnerable to all types of IPV.

However, women in rural or economically marginalized urban areas still face greater barriers to accessing support services, digital infrastructure, and educational content. Casique and Castro (2014) found that in southern Mexico, women in geographically isolated communities were significantly less likely to recognise emotional abuse. This suggests that recognition is mediated not only by individual awareness, but also by structural and geographical inequalities.

Recognition of emotional violence is not uniform across populations. It is shaped by an intersection of structural, cultural, and individual-level factors (Overstreet & Quinn, 2013). Heise’s (1998) ecological model of violence offers a valuable framework for understanding how personal history, relationship dynamics, community context, and broader social norms interact to shape the risk of experiencing violence. This perspective can also be applied to explore how these same factors may influence the ability to recognise such violence. In Mexico, this perspective is particularly relevant, as gender norms and structural inequalities continue to influence how abuse is interpreted or normalised and as feminist movements are gaining momentum.

In sum, while existing literature has highlighted the psychological consequences of emotional violence, its cultural invisibility, and the conditions that enable it, empirical research remains limited in three key ways. First, most studies focus on prevalence and risk factors, without directly measuring the gap between experiencing violence and recognizing it as such. Second, while some research has analysed feminist mobilisations and digital campaigns, few have evaluated their quantitative impact on perception. Third, several international studies rely on indirect questioning techniques, such as vignettes or list experiments, to explore attitudes and mitigate reporting bias, but these methods often fail to capture how women interpret their own lived experiences in everyday relationships.

1. **Methodology**

The objective of this research is not only to document changes in the perception of intimate partner emotional violence, but also to assess whether these shifts reflect broader cultural transformations—particularly the increasing visibility of feminist activism and public discourse around gender-based violence from 2016 to 2021.

**3.1 Research Design**

Public feminist mobilisation and digital prevention campaigns after 2016 arguably reshaped how emotional abuse is labelled in Mexico. Because exposure and context vary by age, education, digital access, and location, the analysis examines whether patterns of recognition and normalisation shifted differently across these groups.

By addressing both sub-hypotheses, the study assesses the extent to which these movements have influenced the recognition of emotional violence. Activism has primarily targeted younger women through digital media and university spaces, where feminist discourse is more visible, while large-scale demonstrations such as the 8M marches are concentrated in Mexico City. This makes the capital a logical focal point for testing regional differences in exposure. Together, these patterns provide the rationale for evaluating whether changes in recognition align with the reach and focus of feminist activism during the 2016–2021 period.

|  |  |  |
| --- | --- | --- |
| **Hypothesis** | **Method** | **Main Variables** |
| H1. Feminist movements and digital campaigns between 2016 and 2021 contributed to a shift in how women recognise emotional violence in intimate relationships in Mexico | H1.1, H1.2 and Descriptive Analysis | Years, recognised emotional violence, Normalise Emotional Violence |
| H1.1. Younger and more educated women with greater digital access are more likely to identify abusive behaviours as violence, whereas older, less educated women with limited internet access are more likely to normalise or overlook such behaviours. | Descriptive Comparison, Logistic Regression, and Gap Analysis. | Education level, Age group, Internet access, Privileged/Disadvantaged status |
| H1.2. Mexico City exhibits a lower proportion of unrecognised emotional violence in 2021 compared to other regions, due to the strength and visibility of feminist movements in the capital. | Difference-in-Differences (DiD) comparing with other states in Mexico (2016 to 2021) | Treatment group: Mexico City; Control group: all other states; Pre (2016) / Post (2021) |

***Table 1***

Table 1 summarises the link between each hypothesis, the corresponding method, and the main variables used in the analysis.

This study adopts a comparative cross-sectional design, using two independent waves of the ENDIREH survey (2016 and 2021) to evaluate changes over time in the recognition and minimisation of emotional violence. While the samples are not longitudinal, their nationally representative nature allows for robust population-level comparisons. The analysis focuses on women aged 15 and older who have been in an intimate partnership, applying logistic regression models and descriptive statistics to explore how socio-demographic characteristics—such as age, education, digital access, and geographic location—relate to recognition patterns in the context of increased feminist mobilisation.

**3.1.1 Overview of the Data Source: ENDIREH 2021**

This study uses microdata from the 2016 and 2021 waves of the Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares (ENDIREH), a national survey conducted by INEGI that targets women aged 15 years and older living in private households across Mexico. Both the 2016 and 2021 editions of ENDIREH were conducted in the last quarter of the year (October–November) using a probabilistic, stratified, tri-stage clustered sample, covering approximately 140,000 households in each wave and yielding interviews with over 110,000 women. In both years, one eligible woman per household was selected to respond to a comprehensive questionnaire on physical, sexual, economic, emotional, and patrimonial violence across five domains: intimate partner, family, school, work, and community. The instruments, consisting of over 1,000 items, were organized in thematic modules tailored to the respondent’s marital status.

The questionnaire asks about a wide array of specific abusive behaviour’s, including verbal aggression, controlling behaviour, humiliation, threats, physical aggression, forced sexual acts, financial control, and property damage. Respondents are asked about the frequency, timing, and location of each behaviour (e.g., in the last 12 months or earlier in life), as well as the relationship to the perpetrator, whether the aggressor was a current or former intimate partner, a family member, colleague, acquaintance, or stranger.

Although there is no specific question asking about if they consider violent acts as violence, the question of the severity of the situation is asked. This can be named as a recognition item that enables researchers to distinguish between the experience of violence and the recognition of it as such, particularly in the case of emotional or psychological abuse that is often normalised.

In addition to questions about violence, the survey includes rich sociodemographic data. It gathers detailed information on respondents’ age, education level, marital status, employment status, income, household structure, indigenous identity, language spoken, religion, disability status, geographic location (urban/rural), and access to digital technologies, including internet and mobile phone usage. This allows for the construction of models to identify patterns in both the prevalence of violence and the likelihood of recognizing it, and how these vary across generational, educational, geographic, and socioeconomic dimensions.

**3.1.2 Dataset and variables used**

For this study, three modules from each ENDIREH wave (2016 and 2021) were used. The TSDem module provided socio-demographic information such as age, education, and state of residence, allowing the construction of age groups, an education binary, and regional identifiers. The TVIV module contained household characteristics, including assets and internet access; the latter was used as a proxy for digital connectivity. The Partner Relationship and Violence module (Section XIII in 2016 and Section XVI in 2021) captured experiences of emotional and physical violence, along with the perceived seriousness of each act, enabling the classification of behaviours as recognised or normalised. The emotional violence module includes 13 specific acts (see Appendix 1 for full list).

|  |  |  |
| --- | --- | --- |
| **Module** | **Key Variables Used** | **Purpose in Analysis** |
| TSDem (2016 & 2021) – Sociodemographic Data | Age (EDAD), Education level (GRA), State of residence (NOM\_ENT) | Construct age groups, binary education variable, and regional identifiers for socio-demographic comparisons |
| TVIV (2016 & 2021) – Household Data | Internet access (P1\_4\_9) | Proxy for digital access |
| Section XIII (2016) / Section XVI (2021) – Partner Relationship and Violence | Emotional violence acts (P14\_1\_10:22), physical violence acts (P14\_1\_1:9), and perceived seriousness (P14\_2:1:22). | Identify emotional/physical violence, classify as recognised or normalised |

**Table 2**

**3.1.2 Software and Tools**

The relevant code and scripts used in these studies is in GitHub at https://github.com/carlapilgram23/ENDIREH-invisible-violence-

All analyses were conducted in R (version 4.3.1) using:

* tidyverse (dplyr, ggplot2, forcats), emmeans, broom, ggeffects, readr

**3.1.3 Data Cleaning and Preparation**

To ensure comparability across years and reliability of the analysis, data from ENDIREH 2016 and 2021 were cleaned and harmonised. The process involved selecting relevant variables, constructing binary indicators for experienced, recognised and normalised emotional and physical violence, and merging these with socio-demographic and household data to incorporate age, education level, geographic region, and internet access.

Each wave was saved as data\_2016\_cleaned and data\_2021\_cleaned in both .csv and .rds formats. These cleaned files were then merged into a single dataset, data\_combined\_cleaned, enabling direct year-to-year comparisons using consistent constructed variables. The combined file was also stored in .csv and .rds formats to ensure compatibility and efficiency for subsequent analyses.

**3.1.4 Main Variables Construction**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Meaning** | **Source** |
| Emotional violence experienced (violencia\_emocional\_vivida) | Binary variable = 1 if respondent reported at least one emotional abuse item. | Constructed from P14\_1\_10:22 and P13\_1\_10:22 in Section XIII (2016) / Section XVI (2021) |
| Emotional violence recognised (violencia\_emocional\_reconocida) | Binary variable = 1 if respondent experienced emotional violence and rated it as “serious” or “very serious”. | Constructed from P14\_2\_10:22 and P13\_2\_10:22 in Section XIII (2016) / Section XVI (2021) |
| Emotional violence normalised (violencia\_emocional\_normalizada) | Binary variable = 1 if respondent experienced emotional violence but rated it as “not important”. | Constructed from P14\_2\_X and P13\_2\_X in Section XIII (2016) / Section XVI (2021) |

**Table 3**

*(Indicators are defined among those who reported the corresponding abuse.)*

For a full list of constructed variables and coding decisions, see Appendix 2.

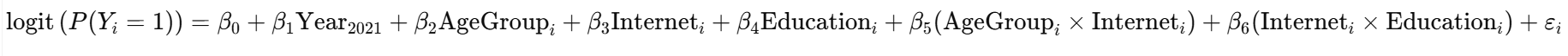
**3.1.5 Analytical Approach**

*Descriptive analysis*

The analysis proceeded in five stages. First, a general summary table was produced showing prevalence and normalisation rates of emotional and physical violence for each year. Second, emotional violence was disaggregated into 13 specific behaviours, calculating experience, normalisation, and recognition percentages, and visualising changes over time. Third, age-group patterns in normalisation and recognition among victims were computed and plotted. Fourth, a state-level recognition rates were estimated, including 95% confidence intervals, bar charts, and slope graphs.

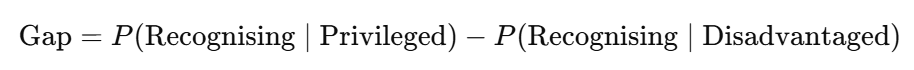
*Regression Analysis*

A logistic regression model estimated the likelihood that a woman who experienced emotional violence recognised it, using year, age group, internet access, and education as predictors, plus interactions to capture differences across socio-demographic profiles. Odds ratios with 95% confidence intervals were reported in a forest plot. A second model added interactions with year to test changes over time, with model fit compared using analysis of deviance and AIC.



*Gap Analysis*

To examine disparities in recognition between socio-demographic extremes, a Privileged-versus-Disadvantaged profile comparison was performed using logistic regression with interaction terms. The Privileged profile was defined as women aged 20–29, with internet access and upper-secondary or higher education; the Disadvantaged profile was women aged 60–79, with no internet access and lower education. Adjusted probabilities for each profile were estimated separately for 2016 and 2021 using marginal means (emmeans) from the fitted model. Gaps in recognition between the two profiles were calculated for each year, with 95% confidence intervals and p-values, providing a direct, model-based measure of inequality and its change over time. The gap between the Privileged and Disadvantaged profiles was calculated for each year as:



*Difference-in-Differences (DiD)*

A difference-in-differences model was applied to compare changes in the recognition of emotional violence between Mexico City and other states from 2016 (pre-period) to 2021 (post-period). The treated group comprised women residing in Mexico City, while the control group included women from all other states. The analysis was restricted to women who had experienced emotional violence and for whom recognition was observed.

Two binary outcomes were examined: (1) recognition of emotional violence among those who experienced it, and (2) incidence of emotional violence in the full sample. Treatment was defined by residency in Mexico City, and the post-period corresponded to 2021. A linear probability model with state and year fixed effects was estimated, clustering standard errors at the state level:



The coefficient 𝛽 captured the change in the treated group relative to the control group. Robustness checks included using incidence as the outcome, placebo tests with pseudo-treated states, and subgroup comparisons by digital access and age.

**3.1.4 Identification Strategy**

Time is used as a fuzzy instrumental variable for exposure to feminist movements and digital campaigns, with 2016 representing a period of low probability of exposure and 2021 a period of high probability following a surge in feminist protests, online activism, and media coverage. Recognition patterns are compared across these years and between sociodemographic groups—defined by age, education, and internet access—to examine whether changes differ systematically by likely exposure. Interaction terms capture heterogeneous effects, while geographic and demographic controls help reduce confounding.

This is an associational before–after design rather than a strict causal analysis. Results should be interpreted as consistent with—but not conclusive evidence of—an effect of feminist campaign reach on recognition. The approach relies on the assumption that, in the absence of mobilisation and campaigns, recognition patterns would have changed only gradually over time.

**3.2 Ethical Considerations**

As an autonomous public institution, INEGI follows rigorous international standards and ethical protocols, particularly when addressing sensitive issues such as gender-based violence. The methodology for ENDIREH is designed to safeguard safety, confidentiality, and reliability. All interviews are conducted face-to-face by trained female enumerators, following strict protocols to ensure the respondent’s privacy during the questionnaire. Enumerators are instructed to postpone or reschedule interviews if the respondent is not alone or if the environment is unsafe due to the presence of partners, family members, or others. They also receive gender-sensitive and trauma-informed training to manage disclosures of violence ethically and respectfully.

This study uses only anonymized secondary data made publicly available by INEGI, with no personally identifiable information included. The research complies with the London School of Economics and Political Science’s ethical standards for secondary data analysis, and ethics approval was formally granted.

1. **Results**

Understanding how women perceive, and report violence reflects shifts in cultural awareness, public discourse, and the influence of social movements. Between 2016 and 2021, Mexico experienced sustained feminist mobilisation and digital prevention campaigns aimed at making gender-based violence—particularly long-normalised or overlooked forms such as emotional abuse—more visible. Using nationally representative ENDIREH data from 2016 and 2021, this section examines whether these efforts coincided with measurable changes in how women identify and interpret emotional violence in intimate relationships.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Total Women Surveyed** | **Experienced Emotional Violence** | **Experienced Physical Violence** | **%Normalized Emotional Violence** | **%Normalized Physical Violence** | **Recognised Emotional Violence** |
| 2016 | 111, 256 | 38, 610 | 18, 953 | 61% | 23% | 31% |
| 2021 | 110, 127 | 35, 656 | 18, 015 | 56% | 17% | 37% |

**Table 4**

The total number of women surveyed remained similar across the two years, enabling robust comparisons. Emotional violence was consistently more prevalent than physical violence, and women were more likely to downplay non-physical abuse than physical abuse. By 2021, fewer women reported experiencing violence, but a greater proportion recognised it as serious, while tolerance of it had declined.

These patterns suggest a modest reduction in both the experience and normalisation of violence over time, particularly emotional abuse, potentially reflecting greater societal awareness. To investigate the drivers of this change, emotional violence was disaggregated into 13 specific acts (Appendix 3). Recognition improved across all acts, with the lowest rates—both in 2016 and 2021—observed for silent treatment, restrictions on personal actions, and digital monitoring. Given that certain behaviours, such as phone or email surveillance, are more common among younger women, subsequent analysis explores differences by age to assess which groups contributed most to the observed improvements.

**A graph with a line going up

AI-generated content may be incorrect. Figure 4**

Recognition increased across all age groups between 2016 and 2021. Younger women consistently exhibited the lowest recognition rates, with only modest gains over time, whereas older groups showed more pronounced improvements. Estimates for women aged 80 and above should be interpreted with caution, as they represent roughly 1% of the sample (Figure 4).

This age gradient indicates that progress was uneven across the life course. To explore whether age-related advantages intersect with other socio-demographic factors, the next analysis examines education and internet access jointly.

Odds ratios from a logistic regression model are shown in Figure 5, with the reference profile defined as women aged 60–79, with lower education, no internet access, in 2016. Compared with this group, younger women (<20, 20–29, 30–39) had significantly lower odds of recognising emotional violence. Higher education and internet access were each associated with higher odds, and their interaction showed a compounding positive association. The 2021 indicator was also positive, though relatively modest in size. Because the model includes interactions, these odds ratios reflect differences relative to the reference profile, and the combined effects for other profiles are examined through marginal predictions in the next analysis.

**Figure 5**

**A screen shot of a computer

AI-generated content may be incorrect.**

These conditional associations indicate that age, education, and internet access each contribute to differences in recognition, with younger women at a relative disadvantage and the combination of higher education and internet access showing a compounding benefit. To make these coefficients more interpretable, adjusted probabilities were estimated for two composite profiles—Privileged (ages 20–29, upper-secondary or higher, internet access) and Disadvantaged (ages 60–79, secondary or less, no internet)—based on a logistic model with interactions between year, age group, education, and internet access.

Recognition was consistently higher for the Disadvantaged profile than for the Privileged profile in both 2016 and 2021, and the gap between them showed no evidence of narrowing over time. Full estimates and confidence intervals are presented in the tables, with year-specific gaps visualised in Appendix 4

Across all profiles, recognition increased between 2016 and 2021, with no group showing declines. Baseline levels in 2016 were generally higher among women with greater education and internet access, but the largest absolute increases were concentrated among the oldest cohorts. Women aged over 80 recorded gains of more than 12 percentage points across all profiles (e.g., from 38.4% to 51.8% among those with higher education and internet access), compared with increases of around 6–7 percentage points among the youngest groups (<20). Middle-aged cohorts (20–59) showed more modest improvements, typically between 3 and 6 percentage points. These trends indicate that while education and internet access were associated with higher recognition levels overall, the steepest increases over time occurred among older women (Appendix 5).

The persistence of this gap motivates a regional test: Mexico City—where feminist mobilisation and visibility were high—offers a natural contrast for assessing whether recognition rose more there than elsewhere, evaluated through a difference-in-differences design.

The DiD estimate for recognition among women who experienced emotional violence was 5.5 percentage points (pp) (SE = 0.54, p < 0.001), indicating that the increase in Mexico City between 2016 and 2021 was 5.41 pp greater than in other states (Figure 6).

**A graph with lines and dots

AI-generated content may be incorrect.**

**Figure 6**

Triple-differences results show that this DiD effect (4.49 pp, p < 0.001) was significantly larger among younger women (+2.82 pp, p < 0.001). No significant pre–post differences for the young group were found outside of Mexico City, nor any baseline gap between young and older women in the city, suggesting that the greater improvement was concentrated among younger cohorts.

Appendix 6 shows that the largest recognition gap between 2016 and 2021 occurred in Baja California, followed by Mexico City.

Applying the same design to incidence (all women and not just victims) yielded a −9.43 pp larger decline in Mexico City (p < 0.001). This should be interpreted cautiously, as incidence changes may reflect differences in reporting or sample composition as well as actual reductions in violence.

Placebo tests treating large states as pseudo-treated produced smaller or negative effects (Jalisco −1.7 pp, Nuevo León −2.5 pp, Puebla −2.7 pp, Veracruz +2.4 pp), supporting the specificity of the Mexico City result (Appendix 7). Findings indicate a larger rise in recognition in Mexico City between 2016 and 2021, robust to alternative outcomes and placebo checks.

Overall, the results indicate a consistent increase in the recognition of emotional violence between 2016 and 2021 across both socio-demographic profiles and regional comparisons. Privileged and disadvantaged women alike exhibited significant gains in adjusted recognition, though the absolute gap between the two groups remained largely unchanged. The difference-in-differences estimates for Mexico City versus other states further suggest that contextual factors in the capital—such as stronger feminist mobilisations and digital campaign reach—may have contributed to a greater improvement in recognition. These findings provide quantitative support for the hypothesis that broader societal and contextual changes during this period were associated with meaningful shifts in how emotional violence is identified.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Main Metric** | **Groups Compared** | **2016 % (95% CI)** | **2021 % (95% CI)** | **Δ pp**  **(95% CI)** | **p-value** |
| Adjusted Recognition | Privileged | 24.2  (22.9-25.5) | 30.6  (29.2-32.0) | 6.4  (4.5-8.2) | p<0.001 |
|  | Disadvantaged | 39.2  (37.8–40.6) | 44.8  (43.4–46.3) | 5.7  (3.7–7.7) | p<0.001 |
| Adjusted Gap | Disadvantaged - Privileged | 14.26  (11.87-16.64) | 14.71  (12.28-17.13) | 0.316  (0.291-0.22) | p<0.001 |

**Table 5:** **Key Results summary for H1.1 about Profiles**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Main Metric** | **Groups Compared** | **2016 % (95% CI)** | **2021 % (95% CI)** | **Δ pp (95% CI)** | **p-value** |
| DiD | Mexico City (treated) vs other states (control | 38.1  (36.0–40.2) | 49.2  (46.3–52.1) | 5.5  (4.4-6.6) | p<2e-16 |
| Raw % 2021 | Mexico City | - | 49.2  (46.3-52.1) | 13.2  (10.3-16.2) | p<2e-16 |
|  | Other States | - | 36.0  (35.5 -36.5) | - |  |

**Table 6:** **Key Results summary for H1.2 about States**

1. **Discussion**

Across 2016–2021, recognition of emotional violence rose while normalisation declined, consistent with a gradual reframing of non-physical abuse in Mexican public discourse. The findings indicate that improvements in recognition were not confined to specific subgroups but occurred across the population, suggesting broad shifts in interpretive frames. Yet progress was uneven, revealing generational and contextual dynamics that complicate the assumption that greater digital access automatically translates into stronger awareness.

A first notable pattern is the counterintuitive finding that recognition was consistently higher among the “Disadvantaged” profile (older women, lower education, no internet) than among the “Privileged” profile (younger, higher education, internet). This result contrasts with Hypothesis H1.1, which expected younger, digitally connected women to show the strongest recognition gains given the targeted reach of feminist campaigns on social media. Several mechanisms may help explain this divergence. Because the analysis conditions on exposure, older women’s reports may reflect greater severity, accumulation, or clarity of behaviours that are easier to classify as “violence.” Longer-term relationships may provide more pronounced patterns of domination, in contrast with the subtler, digitally mediated control common among younger cohorts. Generational differences in interpretive frames may also play a role: while older women are influenced by norms of silence around intimate life (Aday et al., 2017; Storey et al., 2024; Montminy, 2005), once prompted in survey contexts they may be more likely to categorise enduring and visible behaviours as serious.

At the same time, younger women—despite being the intended audience of feminist digital campaigns—exhibited persistently lower recognition rates and only modest improvements. Exposure to contradictory discourses in digital spaces may blur the boundaries between affection and abuse (Salinas & Cortes, 2021; Van Ouytsel et al., 2019). Romanticised notions of jealousy and control remain entrenched among adolescents and young adults (Lozano et al., 2024; Francis & Pearson, 2021), contributing to the persistence of normalisation. While internet access and higher education are positively associated with recognition overall, these effects did not erase the age disadvantage, indicating that digital connectivity alone is not sufficient to overcome cultural narratives that sustain the invisibility of emotional abuse.

Behaviour-specific analyses reinforce this interpretation. Normalisation declined across all 13 acts of emotional violence, yet recognition remained lowest for silent treatment, restrictions on personal actions, and digital monitoring. These behaviours are more easily minimised or framed as expressions of care, aligning with arguments that psychological abuse often hides behind cultural scripts of romantic love (Anglin & Mitchell, 2004; Hamby & Grych, 2016). Age patterns in exposure matter here: digital surveillance skews younger, while cumulative controlling behaviours are more prevalent among older cohorts, shaping recognition trajectories across the life course.

The regional analysis adds a further layer of evidence. Using a difference-in-differences design, recognition rose significantly more in Mexico City than in other states. Placebo tests with large states produced smaller or negative estimates, supporting the specificity of the Mexico City effect. This finding is consistent with the concentration of feminist mobilisation, NGOs, media visibility, and policy attention in the capital. Mexico City has been the epicentre of mass protests, digital campaigns, and institutional engagement, providing a denser ecosystem for feminist discourse to diffuse. The effect was particularly pronounced among younger women, suggesting that in contexts where feminist narratives are highly visible, even digitally connected cohorts show measurable improvements in recognition. Hypothesis H1.2 is therefore supported: Mexico City recorded a significantly greater rise in recognition than other states, reflecting its role as the locus of feminist activism.

These findings resonate with international research showing that psychological abuse is widespread yet underrecognised (WHO, 2021), that recognition depends on having the language and framing to name harm (Hamby & Grych, 2016), and that “what is measured counts” (D’Ignazio & Klein, 2020). In Mexico, feminist mobilisation since 2018–2019 has broadened vocabularies to name emotional, symbolic, and economic harm, particularly in university spaces and digital platforms (Cerva Cerna, 2020; Ortolá, 2022; Ramirez Ruiz, 2024). Yet diffusion has been uneven: while Mexico City shows accelerated change, younger cohorts nationwide remain less likely to recognise abuse despite high connectivity, and disadvantaged women continue to exhibit higher recognition than expected.

Overall, the results suggest that recognition is shaped not only by access to information but also by the nature of behaviours encountered, the severity and duration of relationships, and the cultural frames available to interpret them. Improvements between 2016 and 2021 likely represent the early stages of a longer process of diffusion. Recognition does not shift overnight but accumulates as vocabularies, norms, and interpretive resources spread across cohorts and regions.

1. **Conclusion**

This research suggests that feminist movements and digital prevention campaigns between 2016 and 2021 were linked to measurable improvements in the recognition of emotional violence among Mexican women, though the gains were uneven. Recognition rose nationally and normalisation declined, with the most pronounced increases in Mexico City, the hub of feminist mobilisation. Yet the results show a paradox: older and disadvantaged women often reported higher recognition than younger, digitally connected women, pointing to the importance of life stage, severity of experiences, and cultural frames alongside digital activism.

Empirically, the study is the first to use ENDIREH 2016 and 2021 to quantify the recognition gap, offering a replicable measure for future research. Conceptually, it challenges assumptions about the automatic benefits of connectivity, highlighting instead the complex interplay of age, education, and cultural norms. Practically, it underscores the need for prevention strategies that reach younger cohorts and address digitally mediated abuse, while adapting successful frames from Mexico City to other regions. Recognition emerges as a critical lens for tracking cultural change, guiding interventions, and assessing the broader impact of feminist mobilisation.

**5.1 Implications**

Policy and prevention

* Recognition should be treated as a core metric in monitoring gender-based violence, not only prevalence. Institutions could integrate recognition indicators into future ENDIREH waves and official statistics to capture cultural change.
* Prevention campaigns need to target younger cohorts more directly, challenging romanticised notions of jealousy and control and focusing on digitally mediated forms of abuse such as phone surveillance and online monitoring.
* Successful approaches from Mexico City — mass mobilisation, feminist framing, and collaboration between NGOs, media, and institutions — could be adapted to strengthen recognition in other regions, particularly rural or marginalised areas.

Digital activism and education

* Digital campaigns should move beyond raising awareness to developing interactive tools and resources that help young women recognise subtle patterns of control in their own relationships.
* Schools and universities remain key spaces for transformation, where feminist narratives and peer-led initiatives can shift norms around emotional abuse.

Research

* Recognition-focused indicators offer a replicable tool for comparative studies across countries and future waves of ENDIREH.
* Further work should explore why disadvantaged groups report higher recognition, examining how severity, relationship duration, and cumulative exposure interact with cultural frames.
* Longitudinal and qualitative research would complement these findings by capturing how recognition evolves across the life course and within different relationship contexts.

**5.2 Limitations**

This study used repeated cross-sections (2016 and 2021), so changes cannot be linked to the same individuals; compositional shifts across waves may contribute to differences. The two-period difference-in-differences relies on parallel trends that cannot be directly tested with only two waves; Mexico City residency may also reflect selection (migration/composition). Concurrent shocks between 2016 and 2021 (e.g., COVID-19) could influence reporting and experience.

All outcomes are self-reported and may reflect labelling as well as behaviour (social desirability, recall, stigma). Recognition does not always imply disapproval; some women may acknowledge an act yet still rate it “not important.” Indicators for digital access and education are coarse proxies for exposure to feminist discourse or interpretive capacity. By conditioning on women who experienced emotional violence, recognition estimates speak to victims, not population-wide prevalence.

Some cells are small (e.g., ages 80+, ≈1%), limiting precision. Missing variables—such as mental health, partner behaviours, media consumption, or direct measures of campaign exposure—remain unobserved confounders. The survey excludes institutionalised populations (e.g., hospitals, shelters), which limits external validity.

Longer-run trends cannot be studied because earlier ENDIREH waves lack comparable items on emotional violence. Although placebo checks and an incidence specification support robustness, they cannot rule out all alternative explanations.

**5.3 Further research**

Google Trends data (2015–2025) show rising public interest in feminist mobilisations and gender violence, with recurring peaks around 8M and steady growth in searches for violencia de género. This upward trajectory suggests that feminist discourse will continue to expand, making emotional and psychological abuse increasingly visible. Future research should test whether this digital visibility translates into sustained gains in recognition in forthcoming survey waves. ENDIREH 2026 will provide an opportunity to assess whether the gains in recognition observed between 2016 and 2021 persist, expand, or plateau. While it is reasonable to anticipate further improvements as feminist framings consolidate, this remains a testable expectation contingent on new data.

A graph of colored lines

AI-generated content may be incorrect.

**Figure 7**

The current study also lacks direct measures of exposure to digital prevention campaigns. Future work could address this gap by linking recognition trends to platform-level engagement, for example anonymised data from support tools such as the Violetta chatbot, while carefully accounting for issues of selection and privacy.

Comparative and mixed-methods research could further enrich this agenda. Cross-national studies across Latin America would clarify whether the Mexican experience reflects broader regional patterns or unique national dynamics. Qualitative approaches, including interviews and focus groups, could shed light on why disadvantaged and older women reported higher recognition than their younger, digitally connected counterparts, providing a deeper understanding of how cultural frames, life stage, and cumulative experiences shape interpretation.

Future work should also examine cohort dynamics more explicitly, distinguishing between generational replacement and life-course effects. This would clarify whether recognition improves primarily because younger generations adopt new framings, or because individuals tend to reinterpret past experiences differently as they age. Finally, behaviour-specific analysis could identify why certain forms of abuse—such as silent treatment, restrictions on personal actions, and digital monitoring—remain persistently underrecognised, despite broader cultural change.

Taken together, these extensions would not only refine our understanding of how recognition evolves but also illuminate how feminist discourse and activism in Mexico continue to reshape the boundaries of what counts as violence. By tracking recognition alongside prevalence, future research can help ensure that the once invisible dimensions of intimate partner violence become visible, measurable, and ultimately preventable.

The recognition of emotional violence is not only a matter of measurement but of justice. It evolves slowly, as language, norms, and collective frames shift, change does not happen overnight. The evidence from Mexico between 2016 and 2021 shows that feminist discourse can make invisible harms visible, but also that progress is uneven and fragile. The challenge ahead is to sustain this momentum so that recognition becomes not only more widespread but also the foundation for prevention, protection, and lasting social transformation.

1. **References**

Aday, R. H., Wallace, J. B., & Scott, S. J. (2017). Generational differences in knowledge, recognition, and perceptions of elder abuse reporting. Educational Gerontology, 43(1), 1–14. https://doi.org/10.1080/03601277.2017.1376382

Aguayo, F. (2020). Masculinidades y políticas en América Latina transcurridos 20 años de los estudios de género de los hombres. In Madrid, S., Valdés, T., Celedón, R., compiladores. Masculinidades en América Latina. Veinte años de estudios y políticas para la igualdad de género (pp. 331-358). Santiago de Chile: Ediciones Universidad Academia Humanismo Cristiano, Crea Equidad.

Alcaraz Alonso, D. M., Méndez Ortiz, D. V., & Buscemi, E. (2022). Un día sin nosotras: The 2020 women’s strike against gender-based violence in Mexico between intersectionality and activism. Culture e Studi del Sociale, 7(2), 121–132.

Ali, P. A., & Naylor, P. B. (2013). Intimate partner violence: A narrative review of the biological and psychological explanations for its causation. Aggression and Violent Behavior, 18(3), 373–382. https://doi.org/10.1016/j.avb.2013.01.003

Álvarez Enríquez, L. (2020). El movimiento feminista en México en el siglo XXI: juventud, radicalidad y violencia. Revista mexicana de ciencias políticas y sociales, 65(240), 147-175.

Anglin, D., & Mitchell, C. (2004). Intimate partner violence. Obstetric and gynecologic emergencies (pp. 486-510). New York, NY: McGraw-Hill.

Bosch Fiol, E., & Ferrer Pérez, V. A. (2002). La Voz de las invisibles: Las víctimas de un mal amor que mata. Ediciones Cátedra; Universitat de València; Instituto de la Mujer.

Brambila-Tapia, A. J. L., Brambila-Tostado, I., Ortega-Medellín, M. P., & Ramírez-Cerón, G. G. (2025). Perceptions of causes, consequences, and solutions of intimate partner violence (IPV) in Mexican women survivors of IPV: A qualitative study. Behavioral Sciences, 15(6), 723. https://doi.org/10.3390/bs15060723

Cabrera, C., Cabrera, C., & Cabrera, C. (2024, 20 octubre). ‘I am here to support you’: Violetta, Sophia and Sara, the chatbots that assist victims of gender violence. EL PAÍS English. https://english.elpais.com/technology/2024-10-20/i-am-here-to-support-you-violetta-sophia-and-sara-the-chatbots-that-assist-victims-of-gender-violence.html

Casique, I., & Castro, R. (2014). La violencia contra las mujeres en México: resultados de la ENDIREH 2011. Cuernavaca: Instituto Nacional de Salud Pública.

Ceballos, C. S., & Haensch, A. C. (2025). Mexico 2021: Psychological Intimate Partner Violence Against Women and the Role of Childhood Violence Exposure - A Machine Learning Approach. arXiv preprint arXiv:2507.22592.

Cerva Cerna, D. (2020). Activismo feminista en las universidades mexicanas: la impronta política de las colectivas de estudiantes ante la violencia contra las mujeres. Revista de la educación superior, 49(194), 137-157.

Cerva Cerna, D. (2020). La protesta feminista en México. La misoginia en el discurso institucional y en las redes sociodigitales. Revista mexicana de ciencias políticas y sociales, 65(240), 177-205.

Cortes, P. J., & Salinas, N. A. (2021). Violencia en las Relaciones de Pareja: Estudio Descriptivo en una Muestra de Universitarias Mexicanas (Psychology tesis, Universidad Nacional Autónoma de México).

Council of Europe. (2022). Preventing violence against women through formal and informal education: Article 14 of the Istanbul Convention. Council of Europe Publishing. https://edoc.coe.int/en/violence-against-women/11018-preventing-violence-against-women-through-formal-and-informal-education-article-14-of-the-istanbul-convention.html

D’Ignazio, C., & Klein, L. F. (2023). Data feminism. The MIT Press.

de la Rubia, J. M., & Rosales, F. L. (2013). Premisas socioculturales y violencia en la pareja: diferencias y semejanzas entre hombres y mujeres. Estudios sobre las culturas contemporáneas, 19(38), 47-71.

ECLAC. (2020). The COVID-19 pandemic and its effects on women: Facing the emergency today and building a better tomorrow. Santiago: Economic Commission for Latin America and the Caribbean.

Erickson, K. A., Jonnson, M., Langille, J. I., & Walsh, Z. (2017). Victim gender, rater attitudes, and rater violence history influence perceptions of intimate partner violence. Violence and Victims, 32(3), 533-544. https://doi.org/10.1891/0886-6708.VV-D-15-00086

Fernández-Fontelo, A., Cabaña, A., Joe, H., Puig, P., & Moriña, D. (2019). Untangling serially dependent underreported count data for gender-based violence. Statistics in Medicine, 38(22), 4404–4422. https://doi.org/10.1002/sim.8306

Francis, L., & Pearson, D. (2021). The Recognition of Emotional Abuse: Adolescents' responses to warning signs in romantic relationships. Journal of interpersonal violence, 36(17-18), 8289–8313. https://doi.org/10.1177/0886260519850537

Freyre, V., Bringas, P., & Boix, A. (2020). Percepción del Violentómetro por estudiantes de nivel medio superior. In: Factores críticos y estratégicos en la interacción territorial: Desafíos actuales y escenarios futuros. UNAM & Asociación Mexicana de Ciencias para el Desarrollo Regional, Ciudad de México.

García, L. S. (2025). Hacia la construcción de políticas públicas feministas. Alerta por violencia contra las mujeres en Ciudad de México, 2019-2023. GénEroos, 3(5), 84-118.

Gilligan, D. O., Hidrobo, M., Leight, J., & Tambet, H. (2025). Using a list experiment to measure intimate partner violence: cautionary evidence from Ethiopia. Applied Economics Letters, 32(11), 1594–1600. https://doi.org/10.1080/13504851.2024.2308579

Gracia, E. (2004). Unreported cases of domestic violence against women: Towards an epidemiology of social silence, tolerance, and inhibition. Journal of Epidemiology &amp; Community Health, 58(7), 536–537. https://doi.org/10.1136/jech.2003.019604

Hamby, S., & Grych, J. (2016). The complex dynamics of victimization: Understanding differential vulnerability without blaming the victim. In C. A. Cuevas & C. M. Rennison (Eds.), The Wiley handbook on the psychology of violence (pp. 66–85). Wiley Blackwell.

Heise L. L. (1998). Violence against women: an integrated, ecological framework. Violence against women, 4(3), 262–290. https://doi.org/10.1177/1077801298004003002

INEGI (2018, November 22). “Estadísticas a propósito del día internacional de la eliminación de la violencia contra la mujer (25 de noviembre)” / Datos nacionales. Retrieved July 27, 2025, from https://www.inegi.org.mx/contenidos/saladeprensa/aproposito/2024/EAP\_VCM\_24.pdf

INEGI. (2021). Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares (ENDIREH) 2021. Instituto Nacional de Estadística y Geografía.

Instituto Nacional de Estadística y Geografía (INEGI). (2013). Encuesta Nacional sobre la Dinámica de las relaciones en los hogares (ENDIREH) 2011. INEGI. https://www.inegi.org.mx/programas/endireh/2011/

Instituto Nacional de Estadística y Geografía (INEGI). (2021). Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares (ENDIREH) 2021: Resultados principales. https://www.inegi.org.mx/programas/endireh/2021/

Instituto Nacional de Estadística y Geografía. (2013). Panorama de violencia contra las mujeres en México: ENDIREH 2011. Aguascalientes, México: Instituto Nacional de Estadística y Geografía.

Jimenez, G. (2022, September 7). Endireh: Las Mujeres Identifican Más la Violencia, pero no piden más ayuda. Gatopardo. https://www.gatopardo.com/articulos/las-mujeres-identifican-mejor-la-violencia-pero-no-piden-mas-ayuda

Karakurt G, Silver KE. Emotional abuse in intimate relationships: the role of gender and age. Violence Vict. 2013;28(5):804-21. https://doi.org/10.1891/0886-6708.VV-D-12-00041

Kelly, L. (2013). Surviving sexual violence. Wiley.

Khan, M.T.F., & Qian, L. (2021). Determinants of Women’s Attitude towards Intimate Partner Violence: Evidence from Bangladesh. arXiv.Org.

Lagarde, M. (1990). Cautiverios de las Mujeres: Madresposas, Monjas, Putas, Presas y Locas. Universidad Nacional Autónoma de México.

Lozano, V. V., Aranda, G. I. P., Estrada-Carmona, S., Garcia-Reyes, L., & Sierra, M. À. T. (2024). The myths of romantic love and violence in courtship. Revista de Gestão Social e Ambiental, 18(5), e06986.

Marcos, S. (1999). Twenty-five years of Mexican feminisms. Women’s Studies International Forum, 22(4), 431–433.

Mendes, K., Ringrose, J., & Keller, J. (2019). Digital Feminist Activism: Girls and Women Fight Back Against Rape Culture. Oxford University Press.

Montminy, L. (2005). Older women’s experiences of psychological violence in their marital relationships. Journal of Gerontological Social Work, 46(2), 3–22. https://doi.org/10.1300/j083v46n02\_02

Moral-de la Rubia, J., López-Rosales, F., Díaz-Loving, R., & Cienfuegos-Martínez, Y. I. (2014). Protective factors and risk factors of being a victim of couple violence in women and men / Factores de riesgo y protección de ser víctima de violencia en la pareja en mujeres y hombres. International Journal of Social Psychology, 29(1), 31–59. https://doi.org/10.1080/02134748.2013.878570

Moriña, D., Millán, I., Fernández-Fontelo, A., Puig, P., Toran, P., Gómez-Maldonado, M., & Falguera, G. (2024). Exploring what lies beneath the tip of the gender-based violence iceberg. medRxiv, 2024-02.

Neri, R. A. O. (2020). Acciones feministas en red: análisis del hashtag #Marcha8M en México. Conexión, 14, 129-156.

Ortolá, A. G. (2022). Reivindicaciones feministas de la cuarta ola: La transnacionalización de la protesta. Asparkia: Investigació feminista, (40), 191-216.

Overstreet, N. M., & Quinn, D. M. (2013). The Intimate Partner Violence Stigmatization Model and Barriers to Help Seeking. Basic and Applied Social Psychology, 35(1), 109–122. https://doi.org/10.1080/01973533.2012.746599

Peatee, J. J. (2022). My partner didn’t hit me, so it’s not abuse: Exploring factors that contribute to labeling psychological abuse experiences & help-seeking. ProQuest Dissertations & Theses.

Ramirez Ruiz, L. J. El uso del Tik Tok como narrativa documental y memoria social del movimiento feminista en México (Master's thesis, Quito, Ecuador: Flacso Ecuador). http://hdl.handle.net/10469/22271

Rovira-Sancho, G. (2021). Activism and affective labor for Digital Direct Action: The Mexican #MeToo campaign. Social Movement Studies, 22(2), 145–162. https://doi.org/10.1080/14742837.2021.2010530

Ruiz, K., & Romero, N. (2025, March 8 2025 rompe récord de asistencia en marcha del 8M; así ha sido año con año. El Universal. https://www.eluniversal.com.mx/metropoli/2025-rompe-record-de-asistencia-en-marcha-del-8m-asi-ha-sido-ano-con-ano/

Seppälä, T. (2016). Feminisation of resistance in Latin America. Journal of Resistance Studies, 2(2), 12–45.

Special Eurobarometer 449: Gender-based violence (v1.00). (2016). [Data set]. European Commission, Directorate-General for Communication. http://data.europa.eu/88u/dataset/S2115\_85\_3\_449\_ENG

Storey, J. E., O’Brien, R. C., & Fraga Dominguez, S. (2024). Where do we draw the line? perceptions of abuse of older adults and their association with ageism. The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 80(1). https://doi.org/10.1093/geronb/gbae190

Sweet, P. L. (2019). The Sociology of Gaslighting. American Sociological Review, 84(5), 851-875. https://doi.org/10.1177/0003122419874843

Torres Munguía, J. A., & Martínez-Zarzoso, I. (2022). Determinants of emotional intimate partner violence against women and girls with children in Mexican households: An ecological framework. Journal of Interpersonal Violence, 37(23–24). https://doi.org/10.1177/08862605211072179

Van Ouytsel, J., Walrave, M., Ponnet, K., Willems, A.-S., & Van Dam, M. (2019). Adolescents’ perceptions of digital media’s potential to elicit jealousy, conflict and monitoring behaviors within romantic relationships. Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 13(3). https://doi.org/10.5817/cp2019-3-3

Velázquez, A. J. G., Pérez, M. Y., & de la Cruz, A. H. (2025). Percepciones de violencia psicológica en el noviazgo adolescente en Tamulté de las Sabanas, Tabasco: una perspectiva de género Perception of Psychological Violence in Courtship in Tamulté de las Sabanas, Tabasco: From a Gender Perspective. Revista Pueblos y fronteras digital, 20, 1-30.

World Health Organization. (2021). Violence against women prevalence estimates, 2018: Global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women: Executive summary. WHO. https://apps.who.int/iris/handle/10665/341337

1. **Appendix**

**Appendix 1. Thirteen acts of emotional violence in ENDIREH, asked as questions about partner behaviour.**

|  |  |  |
| --- | --- | --- |
| **Emotional Violence Behaviour** | **Variable 2016** | **Variable 2021** |
| Shaming, insulting, or humiliating | P13\_1\_10 | P14\_1\_10 |
| Emotional neglect or lack of affection | P13\_1\_11 | P14\_1\_11 |
| Statements suggesting infidelity | P13\_1\_12 | P14\_1\_12 |
| Inducing fear | P13\_1\_13 | P14\_1\_13 |
| Threats | P13\_1\_14 | P14\_1\_14 |
| Locking in or restricting movement | P13\_1\_15 | P14\_1\_15 |
| Stalking or surveillance | P13\_1\_16 | P14\_1\_16 |
| Controlling your actions | P13\_1\_17 | P14\_1\_17 |
| Threatening with weapons or burning | P13\_1\_18 | P14\_1\_18 |
| Threats of murder, suicide, or harm to children | P13\_1\_19 | P14\_1\_19 |
| Destroying or hiding belongings | P13\_1\_20 | P14\_1\_20 |
| Ignoring or silent treatment | P13\_1\_21 | P14\_1\_21 |
| Monitoring phone or email | P13\_1\_22 | P14\_1\_22 |

**Appendix 2: Constructed variables**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Meaning** | **Source** |
| Emotional violence experienced (violencia\_emocional\_vivida) | Binary variable = 1 if respondent reported at least one emotional abuse item. | Constructed from P14\_1\_10:22 and P13\_1\_10:22 in Section XIII (2016) / Section XVI (2021) |
| Emotional violence recognised (violencia\_emocional\_reconocida) | Binary variable = 1 if respondent experienced emotional violence and rated it as “serious” or “very serious”. | Constructed from P14\_2\_10:22 and P13\_2\_10:22 in Section XIII (2016) / Section XVI (2021) |
| Emotional violence normalised (violencia\_emocional\_normalizada) | Binary variable = 1 if respondent experienced emotional violence but rated it as “not important”. | Constructed from P14\_2\_X and P13\_2\_X in Section XIII (2016) / Section XVI (2021) |
| Physical violence experienced (violencia\_fisica\_vivida) | Binary variable = 1 if respondent reported at least one physical abuse item. | Constructed from P14\_1\_X and P13\_1\_X in Section XIII (2016) / Section XVI (2021) |
| Physical violence normalised (violencia\_fisica\_normalizada) | Binary variable = 1 if respondent experienced physical violence but rated it as “not important”. | Constructed from P14\_2\_X and P13\_2\_X in Section XIII (2016) / Section XVI (2021) |
| Age group (grupo\_edad) | Categorical variable: <20, 20–29, 30–39, 40–49, 50–59, 60–79, >80. | Constructed from EDAD in TSDem module. |
| Digital access (accesso\_digital) | Binary variable = 1 if household has internet access, tv and cell phone. | TVIV module, internet at home (P1\_4\_9). |
| Education binary (GRA\_bin) | Binary variable = 1 for upper-secondary or higher; 0 for secondary or less. | Constructed from GRA in TSDem module. |
| Privileged profile | Composite: women aged 20–29, upper-secondary or higher education, and internet access. | Constructed from EDAD, GRA, P1\_4\_9. |
| Disadvantaged profile | Composite: women aged 60–79, secondary or less education, and no internet access. | Constructed from EDAD, GRA, P1\_4\_9. |
| Period | pre = 2016, post = 2021 | Survey year. |
| Treatment group (treated) | Binary variable: 1 if resident of Mexico City, 0 otherwise. | NOM\_ENT in TSDem module. |

**Appendix 3**

A graph with blue and orange bars

AI-generated content may be incorrect.

**Appendix 4**

A graph with different colored rectangles

AI-generated content may be incorrect.

**Appendix 5: Recognition by profile (2016–2021)**

| **Education** | **Internet** | **Age group** | **2016 % (95% CI)** | **2021 % (95% CI)** | **Δ pp (95% CI)** | **BH p-value** |
| --- | --- | --- | --- | --- | --- | --- |
| Lower education | No internet | <20 | 20.2 (18.5–21.9) | 26.5 (24.3–28.8) | 6.3 (3.5, 9.2) | p<0.001 |
| Lower education | No internet | 20-29 | 24.5 (23.5–25.5) | 30.1 (28.8–31.3) | 5.5 (3.9, 7.2) | p<0.001 |
| Lower education | No internet | 30-39 | 28.6 (27.6–29.6) | 33.6 (32.3–34.9) | 5.0 (3.4, 6.6) | p<0.001 |
| Lower education | No internet | 40-49 | 32.9 (31.7–34.0) | 36.5 (35.2–37.9) | 3.7 (1.9, 5.5) | p<0.001 |
| Lower education | No internet | 50-59 | 36.0 (34.7–37.4) | 39.6 (38.1–41.0) | 3.5 (1.5, 5.5) | p<0.001 |
| Lower education | No internet | 60-79 | 39.2 (37.8–40.6) | 44.8 (43.4–46.3) | 5.7 (3.7, 7.7) | p<0.001 |
| Lower education | No internet | >80 | 38.7 (34.8–42.7) | 51.1 (47.5–54.8) | 12.4 (7.0, 17.8) | p<0.001 |
| Lower education | Internet | <20 | 19.9 (18.2–21.6) | 25.9 (23.8–28.1) | 6.0 (3.3, 8.8) | p<0.001 |
| Lower education | Internet | 20-29 | 24.1 (23.0–25.3) | 29.4 (28.2–30.6) | 5.3 (3.6, 6.9) | p<0.001 |
| Lower education | Internet | 30-39 | 28.2 (27.1–29.4) | 32.9 (31.8–34.1) | 4.7 (3.1, 6.3) | p<0.001 |
| Lower education | Internet | 40-49 | 32.4 (31.2–33.7) | 35.8 (34.6–37.0) | 3.4 (1.6, 5.2) | p<0.001 |
| Lower education | Internet | 50-59 | 35.6 (34.1–37.1) | 38.8 (37.5–40.2) | 3.2 (1.2, 5.3) | p=0.00 |
| Lower education | Internet | 60-79 | 38.7 (37.1–40.3) | 44.1 (42.6–45.5) | 5.4 (3.2, 7.5) | p<0.001 |
| Lower education | Internet | >80 | 38.3 (34.3–42.3) | 50.4 (46.6–54.1) | 12.1 (6.6, 17.6) | p<0.001 |
| Higher education | No internet | <20 | 20.3 (18.4–22.2) | 27.6 (25.2–30.1) | 7.3 (4.2, 10.5) | p<0.001 |
| Higher education | No internet | 20-29 | 24.6 (23.4–25.8) | 31.3 (29.7–32.8) | 6.6 (4.7, 8.6) | p<0.001 |
| Higher education | No internet | 30-39 | 28.7 (27.5–29.9) | 34.9 (33.4–36.4) | 6.2 (4.2, 8.1) | p<0.001 |
| Higher education | No internet | 40-49 | 33.0 (31.6–34.3) | 37.8 (36.3–39.4) | 4.9 (2.8, 7.0) | p<0.001 |
| Higher education | No internet | 50-59 | 36.2 (34.7–37.6) | 40.9 (39.3–42.6) | 4.8 (2.5, 7.0) | p<0.001 |
| Higher education | No internet | 60-79 | 39.3 (37.7–40.8) | 46.2 (44.6–47.8) | 7.0 (4.7, 9.2) | p<0.001 |
| Higher education | No internet | >80 | 38.9 (34.8–42.9) | 52.5 (48.8–56.3) | 13.7 (8.1, 19.2) | p<0.001 |
| Higher education | Internet | <20 | 20.0 (18.1–21.8) | 27.0 (24.6–29.4) | 7.1 (4.0, 10.1) | p<0.001 |
| Higher education | Internet | 20-29 | 24.2 (22.9–25.5) | 30.6 (29.2–32.0) | 6.4 (4.5, 8.2) | p<0.001 |
| Higher education | Internet | 30-39 | 28.3 (27.0–29.6) | 34.2 (32.8–35.5) | 5.9 (4.0, 7.7) | p<0.001 |
| Higher education | Internet | 40-49 | 32.5 (31.1–33.9) | 37.1 (35.7–38.5) | 4.6 (2.6, 6.5) | p<0.001 |
| Higher education | Internet | 50-59 | 35.7 (34.2–37.2) | 40.2 (38.7–41.7) | 4.5 (2.3, 6.6) | p<0.001 |
| Higher education | Internet | 60-79 | 38.8 (37.1–40.5) | 45.5 (43.9–47.0) | 6.7 (4.4, 8.9) | p<0.001 |
| Higher education | Internet | >80 | 38.4 (34.3–42.5) | 51.8 (48.0–55.5) | 13.4 (7.8, 19.0) | p<0.001 |

**Appendix 4**

A graph with different colored lines

AI-generated content may be incorrect.

**Appendix 7**

| State | ATT | Std. error | 95% low | 95% high | p.value | note |
| --- | --- | --- | --- | --- | --- | --- |
| JALISCO | -1.7% | 0.006 | -2.8% | -0.6% | 0.002264255164 | ok |
| NUEVO LEON | -2.5% | 0.006 | -3.6% | -1.5% | 0.000005072947 | ok |
| PUEBLA | -2.7% | 0.006 | -3.8% | -1.6% | 0.000001372738 | ok |
| GUANAJUATO | -1.5% | 0.006 | -2.6% | -0.4% | 0.007090167027 | ok |
| VERACRUZ DE IGNACIO DE LA LLAVE | 2.4% | 0.006 | 1.3% | 3.5% | 0.000027705073 | ok |