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ABSTRACT

In this study, we investigate how the press portrays women scientists in Mexico and Brazil (2019–2025) based on a corpus of 2,772 headlines. The headlines were processed using text mining and analyzed through inductive qualitative coding. We identified four categories of differentiated representations across dimensions involving individual and structural aspects and practices of recognition and invisibilization: (1) Headlines that position women as objects of science and tend to reproduce essentialist discourses have a marginal presence in both countries (5.3% in Mexico; 6.8% in Brazil); (2) Headlines that address gender inequality—Mexico (16.9%) displays a more critical narrative regarding structural gaps than Brazil (11.1%); (3) Headlines that amplify the institutional push for women in science; this is the dominant category in both cases (43.4% in Mexico; 36.5% in Brazil), demonstrating reliance on official agendas and commemorative events; (4) Headlines that highlight women scientists and their work. Brazil (26.7%) surpasses Mexico (21.1%) in recognizing specific figures or achievements, typically presented as individual accomplishments. We conclude that media coverage of women scientists in Mexico and Brazil is seasonal and operates through selective amplification of attributes aligned with institutional discourses, albeit with a shift toward consolidation of women's academic authority, especially in the Brazilian context.

Keywords: Media Representation. Women Scientists. Science and the Media. Women in Science.

RESUMEN

En esta investigación indagamos respecto a cómo la prensa representa a las mujeres científicas en México y Brasil (2019-2025) mediante un corpus de 2,772 titulares procesados con minería de textos y analizados a través de codificación cualitativa inductiva. Identificamos cuatro categorías que revelan representaciones diferenciadas a lo largo de dimensiones que involucran aspectos tanto individuales como estructurales, y tanto prácticas de invisibilización como de reconocimiento. (1) Titulares que posicionan a las mujeres como objeto de la ciencia y suelen reproducir discursos esencialistas, con una presencia marginal en ambos países (5.3% México; 6.8% Brasil); (2) titulares que dan cuenta de las desigualdades de género, donde México (16.9%) muestra una narrativa más crítica frente a las brechas estructurales que Brasil (11.1%). (3) Titulares que amplifican el impulso institucional hacia las mujeres en la ciencia, categoría hegemónica en ambos casos (43.4% México; 36.5% Brasil), lo cual evidencia una dependencia de la agenda oficial y de las efemérides; y (4) titulares que visibilizan a las mujeres científicas y su trabajo, donde Brasil (26.7%) supera a México (21.1%) en el reconocimiento de figuras particulares o logros que suelen presentarse como individuales. Concluimos que la cobertura mediática de las mujeres científicas en México y Brasil es estacional y opera como un proceso de amplificación selectiva de atributos alineados con discursos institucionales, aunque con una transición hacia la consolidación de la autoridad académica de las mujeres, especialmente en el contexto brasileño.

Palabras clave: Representación Mediática. Mujeres Científicas. Ciencia y Medios de Comunicación. Mujeres en la Ciencia.

INTRODUCTION

In the 1990s, numerous international conferences were organized to address the issue of women and science. These events highlighted the need to "improve information on the role women play in science and technology, improve women's access to scientific and technological studies and careers, and achieve greater equality in gender relations in society" (García Marín, 2007, p. 15). Since then, governments, international organizations, universities, and other institutions have taken action that has led to a significant increase in the number of women in science. However, structural barriers, discriminatory practices, and various forms of patriarchal violence persist more than three decades later.

This research is set against this complex backdrop. The United Nations (UN, 2020) notes that only 30% of people engaged in research worldwide are women, although this rate rises to 45% in Latin America. While the momentum of the feminist movement has helped open up opportunities in the scientific community, and although women's participation in higher education now exceeds that of men in all countries in Latin America (Torres Beristáin, 2023), female scientists continue to face obstacles in balancing family and work life, not to mention persistent wage inequality (Pozos Villanueva, 2023). To analyze this phenomenon, we turn to the study of media representation

of women scientists. Various authors agree that the media play a central role in shaping social perception by establishing interpretive frameworks for what is considered normal, exceptional, or problematic (Salazar and de la Garza, 2020). The reproduction of gender roles in media discourse affects both individual and collective perceptions, influencing how women are viewed in society (Leidecker-Sandmann et al., 2026). Likewise, media coverage of people working in science directly impacts the presence and representation of women in academia (Vernal-Vilicic & Reyes-Betanzo, 2024). Thus, in this article, we ask: How are women scientists represented in the press? We selected Mexico and Brazil as case studies due to their central role in the regional scientific landscape and the institutional similarities in their research systems, making them strategic cases for analysis.

In this regional context—characterized by significant progress in women's participation but also by structural inequalities—it is pertinent to analyze how these tensions are reflected in the public sphere. In Latin America and the Caribbean (LAC), science, technology, and innovation are developing within a context of moderate growth and resource concentration. According to *The State of Science 2023* by the Organization of Ibero-American States and UNESCO, the regional GDP grew by 21% between 2012 and 2021, and investment in R&D increased by 19%; however, the region accounts for just 2.3% of the global total. Investment is directed primarily to Brazil (62%), Mexico (13%), and Argentina (9%), which together account for 84% of the region's total investment. Brazil is the only Latin American country to allocate more than 1% of its GDP to R&D (1.16% in 2021), while Mexico allocates 0.30%. In terms of human resources, Ibero-America had 634,421 full-time equivalent researchers in 2021, mostly at universities (58%), underscoring the structural importance of higher education in organizing scientific research.

Brazil and Mexico have developed incentive systems based on individual evaluation of scientific productivity, although with differences in their scope, economic impact, and gender composition (Levin, 2025). In Brazil, the system is organized around the National Council for Scientific and Technological Development (CNPq) and its Directory of Research Groups (DGP), the main structural foundation of the national scientific system. According to the 2023 DGP census (Chiarini et al., 2024), the number of institutions grew from 224 in 2000 to 587 in 2023, and the number of research groups increased from 11,760 to 42,852, reflecting sustained growth in

organizational infrastructure. This institutional expansion was accompanied by a notable increase in human resources: the number of researchers affiliated with groups rose from 199,566 to 247,455 between 2016 and 2023, and the number of researchers holding a Ph.D. rose from 130,140 to 168,028, increasing from 65.2% to 67.9% of all researchers. In terms of gender distribution, in 2000, 44% of researchers were women and 56% were men, whereas in 2023, 52% were female (129,090) and 48% male (118,358), consolidating a female majority at the base of the system.

In Mexico, the institutional backbone is the National System of Researchers (SNII), which is attached to the Ministry of Science, Humanities, Technology, and Innovation. In contrast to Brazil, the SNII's financial support has a significant impact on individual income and constitutes a central component of the academic salary structure. According to Chong-Carrillo et al. (2025), based on the official registry, the SNII has 44,890 accredited members, of whom 38.2% are women and 61.8% are men. Although women's participation reaches 45% at the candidate level, it decreases as one moves up the hierarchy: 38% at Level I, 34% at Level II, and about 25% at Level III and in the Emeritus category.

These data enable us to situate analysis of the representation of women scientists in the press within institutional structures marked by persistent asymmetries. While Brazil has achieved a majority of women at the base of the system, Mexico maintains a lower participation rate and more pronounced vertical segregation at the higher levels of recognition. In both cases, academic hierarchies and stratification mechanisms can influence who gains greater visibility and public legitimacy. We start from the premise that media coverage does not operate in a vacuum, but rather within a broad social framework that can reproduce, nuance, or highlight structural inequalities—whether general or specific to the scientific field. Analyzing how the press portrays women scientists enables us to understand gender dynamics in the media and discern how national science systems shape the public image of women.

WHAT DO WE KNOW ABOUT THE REPRESENTATION OF WOMEN SCIENTISTS IN THE MEDIA?

The representation of women scientists in the media has received increasing attention in recent decades, coinciding with their growing participation in science. Arabi et al. (2025) note that although women are present in various fields, their work is often cited and referenced less frequently than that of men, limiting their visibility and recognition in the media. According to these authors, "understanding gender differences in media coverage of scientific research is a fundamental first step toward identifying disparities in visibility and recognition" (Arabi et al., 2025, p. 29).

It is worth noting that a significant percentage of studies analyzing how the press and other media portray the identity and work of women scientists focuses on European experiences. In the United Kingdom, Chimba and Kitzinger (2010) documented an asymmetrical representation: men continue to be the norm, while women scientists are presented as "exceptional individuals," with an emphasis on their appearance, and they are often sexualized. In Finland, Niemi and Pitkäen (2017) show that, despite a progressive context, only 30% of expert voices cited in the media are women. In Germany, Spagert and Wolf (2025) and Leidecker-Sandmann et al. (2026) observe differences in visibility based on discipline and gender, although the latter note that hierarchical position, productivity, and research impact may be more decisive factors than gender. In Spain, Padilla and Semova (2014) point out that female scientists have been virtually invisible in the press due to the limited space devoted to scientific news and the fact that editors predominantly choose men as subjects for their articles.

In African and Latin American contexts, the patterns are similar. Lukanda (2021) documents that in Uganda, a female scientist is more likely to be cited if she collaborates with a man, highlighting the need to incorporate a gender perspective into journalism. Mena (2018), analyzing 155 articles from Spain, Mexico, and Costa Rica, finds that women represent only one-third of expert sources and that their statements are described with adjectives associated with gender roles and stereotypes. In Argentina, Mitchelstein et al. (2020) show that men dominate article writing and the most prestigious sections of newspapers, concluding that "conservative, centrist, and progressive media outlets seem to converge on at least one issue: the systemic persistence of gender inequality in news coverage" (p. 4).

The COVID-19 pandemic exacerbated these inequalities. Fletcher et al. (2021) found that male experts were cited nearly twice as often as female experts in U.S. newspapers, noting that "the lack of women in high-profile positions may also contribute to the underrepresentation of female experts in news articles" (p. 1013). Furthermore, Vernal-Vilicic and Reyes-Betanzo (2024) observed similar patterns across three Chilean newspapers, in which female academics are cited less frequently than their male counterparts.

It is important to note that in studies of media representation of women scientists, there is greater interest in those working in the exact sciences, especially in STEM (science, technology, engineering, and mathematics) education. In this context, Steinke et al. (2024, p. 2) analyzed 300 Instagram posts related to women in STEM, highlighting that these platforms have the capacity not only to "connect a vast audience of girls and young women with role models" but also to help raise awareness of women scientists' achievements and counteract gender stereotypes, fostering the creation of supportive communities and professional recognition. In summary, Phillips et al. (2022) agree that social media can promote role models, but they caution that some representations continue to reinforce sociocultural stereotypes.

As can be seen, the topic under analysis is not new, but it remains highly relevant. Understanding how the work of women scientists is portrayed enables us to assess how their entry into a historically marginalized field has—or has not—transformed their environment, the challenges they face, the ground they have gained, and the obstacles that remain. Analysis of the state of the art in specialized literature shows that, when studying the representation of women scientists in the media, researchers tend to focus on two main aspects: on the one hand, representation understood as presence—that is, who is cited as an expert source and who provides the coverage—and, on the other hand, the overrepresentation of European experiences and of women in STEM.

Within this framework, the present study makes a significant contribution to the field by going beyond the examination of gender gaps in media coverage and focusing on representation from a sociocultural perspective rather than a purely quantitative one. This contribution is also relevant at regional level; given the scarcity of studies on the Latin American landscape, this work offers insights that can guide future research and enrich our understanding of the visibility of women scientists in diverse contexts.

WOMEN IN SCIENCE: A BRIEF ANALYTICAL FRAMEWORK

In this section, we present the study's analytical framework, designed to examine the representation of women scientists in the media. To guide the data analysis, we establish key categories: media presence and visibility, gender roles and stereotypes, disciplinary and hierarchical segmentation, and forms of discrimination and symbolic violence. These categories enable us to integrate certain contributions from gender studies with feminist media theory, showing how historical and sociocultural inequalities are reflected in media representation and in the public perception of science.

As has been widely noted, gender is a principle of social organization that assigns roles and positions based on biological sex, generating historical advantages for some at the expense of others (Scott, 2008). Barrancos (2020, p. 17) notes that "oppositions based on sex are among the earliest forms of hierarchy known to human societies" and are replicated in various spheres. In the professional sphere, this hierarchical dualism casts the masculine as superior and the feminine as inferior (Perona, 2012), which helps explain why science has historically been perceived as a masculine domain and why women's participation was considered transgressive (Buquet, 2014).

Although the common perception is that women are absent from scientific work, Pérez (2003) notes that this is largely due to the scant historical attention paid to the relationship between science and gender. In fact, records of women scientists date back to antiquity. However, their widespread sustained entry into higher education did not occur until the 20th century, driven by feminist movements; this did not guarantee real equality, however, as they faced "everyday practices that repelled their presence in these institutions created by and for men" (Buquet, 2014, p. 166).

From this perspective, Buquet (2014) proposes that gender inequalities in the scientific field are manifest in three dimensions: discrimination, violence, and the gendered division of labor. The first is evident in practices and attitudes that devalue women's academic work, such as sexist comments, mockery, or biased evaluations. The second is expressed primarily through forms of sexual harassment and abuse. Finally, the gender division of labor refers to the disproportionate burden of family responsibilities in women's career trajectories, which, as various authors have pointed out, stems from a structural pattern that has historically linked women to the domestic and

care spheres, placing their productive work in a subordinate position to that of men (Serret, 2008).

These dynamics are reflected in gender segregation in the labor and academic markets —both horizontally, in the concentration of women in certain sectors such as teaching, nursing, or hospitality (Espino and de los Santos, 2019), and vertically, where men predominate at higher hierarchical levels, a phenomenon known as the 'glass ceiling' (Torres Beristáin, 2023). In science, this segregation means that women are largely employed in fields related to education, health, and the social sciences, whereas men predominate in the physical and mathematical sciences and engineering (Buquet, 2014). Thus, the underrepresentation of women is not the result of individual decisions, but rather of historical inequalities that have evolved gradually.

This social structure is also reflected in the media, which are not neutral entities and contribute to the reproduction of gender roles and stereotypes, although they can also promote transformative perspectives (Arabi et al., 2025). Van Zoonen (1994) argues that representation is a feminist battleground, involving both a struggle for rights and a symbolic dispute over femininity and masculinity. We adopt feminist media theory as an analytical framework to examine how the media reproduce and challenge these inequalities.

According to Steiner (2014), this perspective enables analysis of media production, representation, and reception, revealing how gender norms permeate news coverage. In this sense, the media not only reproduce dominant ideologies but also function as spaces for symbolic contestation. Using this approach, three principles are proposed for evaluating content: avoiding judgment, prioritizing evidence over opinions, and allowing people to narrate their own experiences, thereby counteracting the tendency of "male journalism" to speak on behalf of others.

Finally, the literature reveals a clear gender gap in the media: women have less visibility as sources, protagonists, or members of newsrooms. Drawing on feminist media theory, our research recognizes that media visibility, and the way it is framed, is crucial for the work of women scientists to be sufficiently valued and for progress to be made toward substantive equality (Steiner, 2014).

METHODOLOGICAL STRATEGY

We conducted our news search using the Media Cloud Research (MCR) platform, employing the terms “mujeres” and “ciencia” for Mexico and their Portuguese equivalents “mulher” and “ciência” for Brazil. The initial search aimed to generate a comprehensive overview of media coverage without limiting ourselves to specific sections or content types. We focused on the period from January 2019 to December 2025. The initial search yielded 34,716 results for Mexico and 85,495 for Brazil. We downloaded the data, then processed it in R, compiling a database that includes information on the headline, indexing date, publication outlet, and other variables associated with the original record.

One particular aspect of the filtering process should be noted. Although the MCR database includes news articles in their entirety (headline and body), access through the data capture interface was limited to the headlines. We applied a secondary filter to compensate for this and refine the final corpus, defining the news headline as our operational unit of analysis. As might be expected, working exclusively with headlines is a limitation of the study, since we do not know the full extent of women scientists’ representation. However, given that headlines are the first information a person receives about a news story—and, in fact, what leads them to decide whether to read the full article—we believe that this limitation does not compromise the relevance or the scope of the research.

As a second filter, we defined three sets of lexical terms tailored to each country’s language: 1) references to women: words indicating female gender or the presence of women in the content; 2) knowledge production and science: terms related to research, innovation, science, and education; and 3) explicit scientific roles: words denoting female scientific occupations or positions. We selected headlines that met at least one of the following conditions: i) combinations of the sets of references to women and knowledge production, or ii) the presence of explicit scientific roles. This strategy ensured that each record we included accurately reflected the study’s central theme. After applying these criteria, the final observations were reduced to 1,202 headlines for Mexico and 1,570 for Brazil.

As can be seen, no words are included in any of the lexical term sets that would impart an intersectional perspective—for example, the experiences of Indigenous, Black, or transgender women scientists. Although our databases contain some headlines that address these groups,

and we are convinced that their central consideration is necessary, this lies beyond the scope of this research. As noted at the outset, through this study we aim to provide an overview of how the media portrays women scientists, with a special emphasis on the Latin American context, since, as pointed out previously, studies addressing this phenomenon tend to focus on European experiences and on women in STEM. We do not, therefore, view this as a limitation but rather as an opportunity to explore new lines of research.

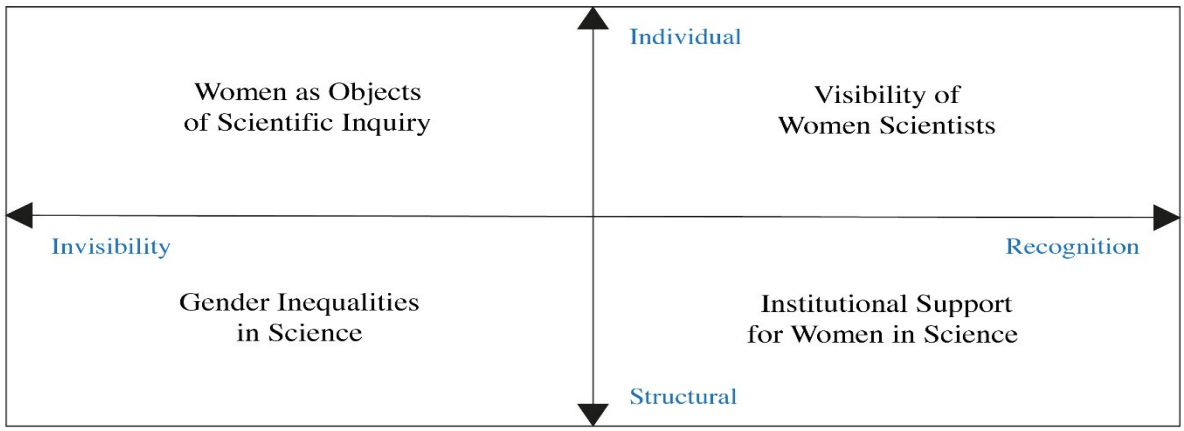
Thus, once we had established the final observations for each case, we developed a codebook through an inductive coding process; that is, we did not code based on categories defined a priori but rather constructed analytical categories from the review and systematization of our data. We reviewed each headline to group them into broader categories, and having defined these sets, we applied the theoretical framework described in the previous section to make sense of their content. This categorization can be understood as a typology that brings together, within a single analytical framework, the individual, structural, recognition, and invisibilization dimensions related to the work of women scientists in Mexico and Brazil, as shown in Figure 1.

The specific coding procedure was as follows. Each author critically analyzed the two filtered databases of headlines from Mexico and Brazil. Based on this review and working individually, we proposed a list of categories that reflected the content of the headlines; initially, we identified about seven categories, but after discussion, we determined that several could be grouped into one, so we concluded this first exercise with the four categories as given in the text, plus the residual category. The second step consisted of a pilot coding exercise, in which each of us coded five headlines per category for each case study. Once coded, we compared the headlines and explained what we believed each one reflected; based on this, we established the conceptual definition for each category. This definition, based on the analytical framework already presented, was crucial for the next step.

Finally, each author individually coded the headlines from both Mexico and Brazil. We assigned a number to each category and placed it in a column next to the headline to streamline the process. This coding was done independently and simultaneously according to the same analytical criteria established in the codebook, based on the conceptual definitions we had established. Once we had completed the coding, we systematically compared the category assigned to each headline to verify the level of agreement.

This process was supervised jointly, enabling us to identify differences in the assigned category in fewer than 20 headlines per case; even though this is a very small number, we met to discuss the discrepancies identified. These differences were resolved by consensus, as they stemmed from interpretive variations or the use of synonyms, which created ambiguity in assigning categories.

Figure 1 | Typology: Representation of Women Scientists in the Press



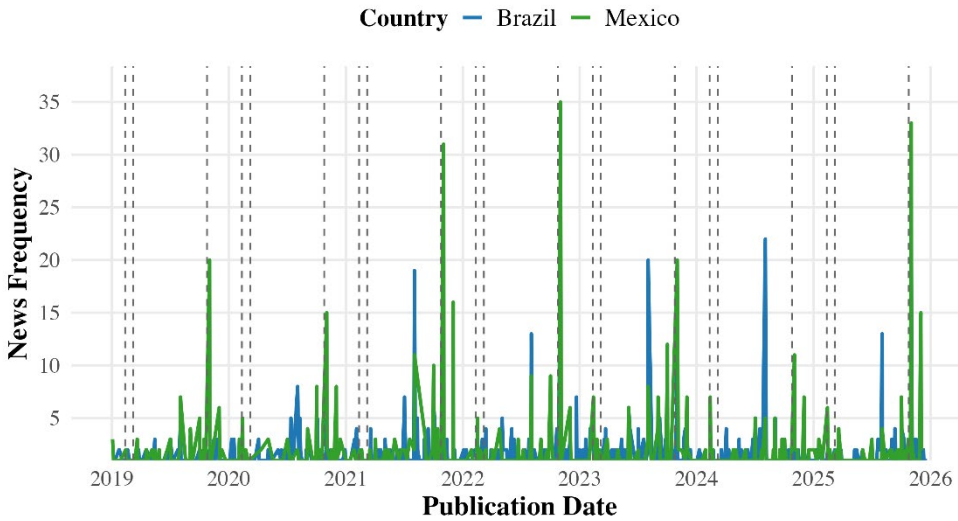
Source: Authors' own elaboration.

The meanings included in each category are as follows. (1) *Women as Objects of Scientific Inquiry* includes headlines that present gender roles and stereotypes as facts backed by "science", based on an essentialism that conceives of women as a homogeneous group suitable for analysis. (2) *Gender Inequalities in Science* groups headlines that highlight the structural factors negatively affecting women's scientific careers, such as barriers, participation gaps, lack of support, violence, or reports of discriminatory practices. (3) *Institutional Support for Women in Science* comprises headlines reflecting institutional action, public policies, support programs, or initiatives aimed at promoting the participation of women and girls in scientific fields, including STEM education and institutional events. (4) *Visibility of Women Scientists* brings together headlines focused on achievements, recognition, or scientific advances made by women, highlighting individual figures and the scientific knowledge they have produced. Finally, we include (5) *"Others"* as a residual category for headlines that do not reflect any of the previous categories.

RESULTS

Presentation of the results is based on the premise that media coverage does not operate in a vacuum but rather (re)produces or highlights tension between advances in women's participation and structural inequalities in the scientific field. To address how women scientists are represented in the press in Mexico and Brazil, we break down the findings below. These data enable us to compare how national science systems shape public discourse, ranging from emphasis on institutional support to highlighting individual achievements or the persistence of essentialist approaches.

Figure 2 | Trends in Headline Publication in Mexico and Brazil



Source: Authors' own compilation.

As a starting point for this analysis, Figure 2 details the publication patterns of news stories about women and science in Mexico and Brazil during the 2019–2025 period. The graph reveals that media visibility is not constant but rather exhibits a pulsating, seasonal pattern tied to the calendar of institutional observance. When comparing publication frequencies with the vertical lines marking annual milestones such as February 11 (International Day of Women and Girls in Science), March 8 (International Women's Day), and November 25 (International Day for the Elimination of Violence against Women), we observe that the highest numbers of news stories coincide with these dates. This pattern suggests that the press operates according to a scheduled visibility strategy, such that

the work of women scientists gains public relevance primarily when it is framed within official commemorations or global awareness campaigns, validating the idea that the media operates through selective amplification of attributes aligned with a preestablished political agenda, rather than as autonomous seekers of women's knowledge production (McCombs et al., 1997).

The data distribution observed in the Mexican case reveals media coverage priorities regarding the relationship between gender and science. First, the category of women as objects of science (Category 1) has the lowest frequency, with only 64 instances (5.32%), suggesting a marginal presence of essentialist discourses or of gender-stereotyped claims presented as scientific truths. In contrast, denunciation of gender inequalities in science (Category 2) holds a significant position with 203 mentions (16.89%), highlighting the structural barriers and forms of violence that affect the career paths of female researchers in the country. However, the most striking finding concerns institutional support for women in science (Category 3), which overwhelmingly dominates the corpus, with 522 mentions (43.43%). This data indicates that communication in Mexico is strongly focused on disseminating public policies and, above all, STEM programs. Meanwhile, the visibility of women scientists (Category 4), focused on the recognition of individual achievements, accounts for 21.13% (254 entries). Finally, the category labeled "Others" (Category 5) accounted for 13.23% (159 cases) of the analysis.

The data on Brazil reveal a discursive pattern in which institutional support for women in science (Category 3) is also the predominant theme, with 573 mentions (36.50%). In contrast to Mexico, greater emphasis on the visibility of women scientists (Category 4) is observed, accounting for 26.69% (419 entries), and suggesting a narrative more focused on highlighting individual achievements and the production of knowledge by Brazilian female researchers. On the other hand, denunciation of gender inequalities in science (Category 2) accounted for 175 mentions (11.15%), indicating a moderate space for discussion of structural barriers. The category of women as the subject of science (Category 1) accounted for 107 entries (6.82%), reflecting the persistence of certain essentialist approaches. Finally, the residual category "Others" (Category 5) accounts for a significant share, with 296 cases (18.85%), grouping elements that do not fit into the main classifications.

Table 1 provides examples of headlines associated with each category used to code our data corpus, allowing us to observe the dominant narratives in coverage of women in science. Regarding the headlines coded under Category 5, "Others," we anticipate that their high proportion—even higher than that of other categories—is due to the combinations of words included in the second filtering stage; these enabled us to approach the phenomenon of interest, but also introduced observations unconnected with scientific work carried out by women. We acknowledge this as a limitation of the research in general and of the data filtering process in particular. We note that in both cases the dominant framing corresponds to Category 3, and we find that these articles tend to appear more frequently in the context of international commemoration (in February and March). This provides key empirical evidence for this article's thesis: the regional press does not generate independent and sustained coverage of science conducted by women; rather, it acts as a platform that amplifies official agendas.

Table 1 | Comparison of Headlines by Category: Mexico and Brazil

Category	Country	Source	Headline	Date
1. Women as Objects of Scientific Inquiry	BR	Correio Brazilienze	Are women becoming more 'aggressive'? What 10 years of research show.	Dec 8, 2022
	MX	Zócalo	Scientifically confirmed: Women are more attracted to men who have partners.	Apr 10, 2019
2. Gender Inequalities in Science	BR	Diário do Nordeste	"I lost my scholarship because I was pregnant": Harassment and prejudice affect women scientists' mental health.	Dec 5, 2024
	MX	Sin Embargo	Lower salaries and only 35% of senior positions are held by women scientists.	Oct 15, 2021
3. Institutional Support for Women in Science	BR	Globo	Three Brazilian universities rank among the ten institutions with the highest academic output by women.	Jan 13, 2020
	MX	El Sol de San Luis	Workshops will be held to commemorate the International Day of Women and Girls in Science.	Feb 9, 2023
4. Visibility of Women Scientists	BR	Globo	Conceição Evaristo receives an honorary doctorate from UFMG.	Sep 23, 2025
	MX	Vanguardia	¡Fierro, Doctor! The legacy of a true Mexican scientist.	Oct 1, 2025

Source: Authors' own elaboration.

DISCUSSION

Below, we analyze in more depth the meanings associated with each category used to classify the data we compiled. We present a comparative review, not so much to discuss percentage differences as to compare the convergences and divergences in the representation of women's scientific work, reflecting on how each nation uses media space to prioritize institutional legitimacy, individual visibility, or the critique of structural violence.

WOMEN AS OBJECTS OF SCIENTIFIC INQUIRY

The first category of analysis lies at the intersection of the individual and invisibilization dimensions. Through this lens, we examine headlines that position women not as producers of knowledge, professionals, or specialists in their fields, but as objects to be studied and explained by an external source, often resorting to narratives that reinforce and reproduce gender roles and stereotypes under the guise of supposed scientific legitimacy. It is striking that this type of headline addresses "women" as if they constituted a homogeneous group and bases its claims on abstract science; that is, it is unclear whether any serious research actually exists to support them. Nevertheless, given the nature of the content in question, we suspect that this is a formula designed to lend credibility to subjective and deeply gendered perceptions.

Despite their relatively low frequency, the persistence of these discourses in the contemporary press is symptomatic of the way gender functions as a principle of social organization (Scott, 2008), conferring upon women a status that is inferior, secondary, and irrelevant in the eyes of public opinion. While it is true that the sensationalist nature of these headlines seeks to generate interest among readers, it simultaneously reflects and represents sociocultural conceptions of what women should be, their interests, and their supposedly natural roles. The main themes we identified relate to hegemonic beauty, highlighting figures who should be considered role models or offering various tips on how to achieve this status; reproduction, emphasizing the advantages of fertility and the consequences of rejecting the reproductive role; and the sexual and emotional relationship between women and men, providing explanations as to why these relationships function the way they do. As we anticipated, all the above is based on purported scientific studies intended to lend validity and

credibility but which, in reality, reinforce a valuation that places women in a position of inferiority or domesticity relative to the canon of male rationality.

The presence of these narratives, slightly more prevalent in Brazil than Mexico, confirms that the figure of the female scientist still carries the stigma of being an "oxymoronic subject" (Haraway, 1989). This symbolic contradiction manifests itself in headlines that, rather than viewing women as subjects who produce knowledge, treat them as a group that needs to be explained. For example: "Science says So! This color will enhance any woman's beauty" (El Heraldo de México, Mexico, September 2, 2020) and "Why are women more interested in married men? Science answers" (Mais Goiás, Brazil, December 12, 2025). Thus, although the data suggest that this way of presenting information is not common, its existence demonstrates that the media have not yet fully shed the biases that render women's agency invisible. The low prevalence of this category in both countries can be interpreted as progress in dismantling "male worldviews" in news production (Torres Beristáin, 2023), shifting media focus from what women *are* or *should be* (according to biology) to what women *do* (in the laboratory and in academia).

GENDER INEQUALITIES IN SCIENCE

This category lies at the intersection of the structural and invisibilization dimensions, grouping headlines that denounce systemic factors that negatively affect women's scientific performance and career trajectories. It includes references to access barriers, participation gaps, lack of support, and various forms of gender-based violence. In both cases, we found that the challenges faced by women scientists are recognized as structural obstacles rather than isolated issues. Likewise, associated phenomena such as structural racism—which hinders the participation and access of Black or Indigenous women—are highlighted. However, only in the Mexican case did we find explicit naming of gender-based violence and some of its manifestations, such as sexual harassment and abuse, reflecting greater public visibility of persistent asymmetries and everyday practices that deter women's presence in historically male-dominated institutions (Buquet, 2014).

The prominence of this category in media discourse highlights the scope of women's ongoing and growing participation in the scientific field, as well as the impact of the feminist movement in exposing structural exclusion and the barriers imposed even after women have secured academic positions; it is through these factors that historically normalized practices are challenged in order to drive substantive change. The main themes we observe in this category revolve around the glass ceiling: a lack of fair representation in decision-making positions and higher levels of recognition; the challenges of balancing motherhood and a professional career, highlighting the real and symbolic penalties faced by those who refuse to choose one over the other; and sexist practices manifested in a lack of visibility for their work, the sustained questioning of their abilities, and the prevalence of a wage gap.

Analysis of this category enables us to identify what Buquet (2014) defines as the three dimensions of inequality in the scientific field: discrimination, violence, and the gender division of labor. The headlines analyzed in both countries reveal the disproportionate impact of these phenomena on academic careers, especially those of women in STEM, confirming that women's entry into the scientific workforce has not been supported by favorable structural conditions. Some headlines illustrating this are: "I am failing as a researcher and a mother: COVID-19 widens the gender gap in science" (Público, Mexico, June 8, 2020), and "Women hold the majority of Master's and Doctoral degrees in Brazil, but men still dominate leadership positions in science; see the numbers" (Globo, Brazil, February 11, 2025). According to feminist media theory (Steiner, 2014), coverage of these inequalities is essential, since issues ignored by the press tend to remain off the public policy agenda. Thus, portraying women scientists as victims of exclusion, discrimination, and violence can serve as a first step toward eradicating these practices.

INSTITUTIONAL SUPPORT FOR WOMEN IN SCIENCE

This category represents the intersection of the structural and recognition dimensions. It constitutes the dominant theme of media representation in both countries, grouping headlines that publicize public policies, support programs, scholarships, and events aimed at promoting the participation of women and girls in science, with a strong emphasis on STEM fields. The sheer volume of this data confirms that the press functions primarily as a space that lends visibility and legitimacy to "notable action" to reverse the historical exclusion of women undertaken by governments, universities, international organisations, and, to a lesser extent, private organizations.

This action does not necessarily entail structural changes; in most cases, it involves promoting the agendas of various institutions relevant to women's scientific work. However, we also found a very small proportion of headlines referring to public policies or economic incentives to support the work of women scientists. The latter is not an omission on the part of the press; rather, it reflects a process of gradual institutional transformation that often lacks sustained commitment to gender equality and merely fulfills the obligations assigned to these institutions. In the case of Brazil, we identified a prevalence of publicizing calls for proposals and opportunities for women scientists, while in Mexico, the coverage of cultural, academic, and commemorative events marking relevant anniversaries stands out. An example of this is: "Federal Congress supports actions and initiatives for scientific development with greater participation of women" (El Debate, Mexico, October 6, 2023) and "UFGD women researchers secure R$440,000 Through the 'Mulheres na Ciência Sul-mato-grossense' program" (Folha de Dourado, Brazil, September 20, 2022).

From a critical perspective, the predominance of this category suggests that media discourse is influenced strongly by the official institutional communication agenda. By prioritizing the dissemination of support programs, the media risks presenting women's inclusion in the scientific sphere as the result of an institutional concession or an *additional element* of national development, rather than as a substantive right and an achievement attained through multiple collective struggles. An interpretation drawn from feminist media theory (Steiner, 2014) suggests that this high volume of institutional information adheres to the principle of prioritizing data and substantiated evidence, but it can also serve to mitigate social tensions. Focusing the narrative on the "momentum" and "achievements" of public policies obscures the everyday practices that still deter women from entering spaces dedicated to scientific work. Ultimately, this predominance shows that while women have undoubtedly gained ground in academia, public representation remains anchored to the legitimacy granted by institutions rather than to the recognition of women scientists' autonomous agency.

VISIBILITY OF WOMEN SCIENTISTS

This category brings together the individual and recognition dimensions. It includes headlines focused on achievements, accolades, and advances made by women in science, highlighting individual figures, their accomplishments and the knowledge they produce. The prevalence of these headlines is slightly higher in Brazil than in Mexico, which could be linked to the structure of the scientific system in Brazil, where a larger pool of female researchers with doctoral degrees is pushing for recognition that goes beyond public policy announcements, to focus on the actual impact of their research. This category suggests a media narrative more oriented toward recognizing women as subjects with their own scientific agency, shifting the focus from the institution to the female researcher.

We found that these headlines appear most frequently when prominent figures in the scientific community receive major awards or honors, when a particular event brings their contributions or discoveries into the spotlight, or after their death, as in the case of Julieta Fierro in Mexico. Some examples of this are: "Katya Echazarreta will be the first female Mexican engineer to travel to space" (AM Querétaro, Mexico, May 11, 2022) and "UFF researcher receives the 'Para Mulheres na Ciência' award for developing an innovative molecule to treat sporotrichosis" (O São Gonçalo, Brazil, December 9, 2025).

As part of a critical review, we identified two drawbacks to the portrayal of women scientists from this perspective. On the one hand, in both Mexico and Brazil, the figures and achievements highlighted tend to be those of women scientists in the exact sciences. We are aware that this greater visibility is partly due to the fact that, although women have historically been marginalized in science in general, resistance is more pronounced in some disciplines that are considered predominantly male territory, as is the case with the exact sciences. However, focusing attention on these areas tends to render invisible the work of women scientists in other fields, such as the social sciences.

On the other hand, we recognize that this representation can serve as an incentive for girls and young women to choose scientific careers, which, as the previous section shows, is a central objective of institutional action. However, by highlighting these figures and influencing what society considers "normal or extraordinary" (Salazar and de la Garza, 2020), two simultaneous processes occur. The press helps to dismantle the perception of science as an exclusively male domain, but at the same time, it promotes a narrative that celebrates certain women as "extraordinary individuals." This pushes other female scientists

into the background and further reinforces the notion that science is the domain of a few, when in reality the number of women scientists is growing, and they now constitute the majority. Nevertheless, this form of representation constitutes a fundamental step toward overcoming what Haraway (1989) described as the conflict of the female subject in science, in which women cease to be *transgressors* of gender norms and instead position themselves as figures of academic authority.

CONCLUDING REMARKS

We began this research by asking how women scientists are represented in the Mexican and Brazilian press and identified four dominant categories. Some portray women scientists as objects of study—that is, they are represented as subjects susceptible to explanation through essentialist and highly gendered perspectives. Some portray them as subjects of exclusion, discrimination, and violence because they are considered transgressors of a historically masculinized field. They are most commonly portrayed, however, as passive subjects who are recipients of public policies and beneficiaries of institutional efforts to reverse the structural inequalities that have limited women's participation in science. And finally, some portray them as active agents in the pursuit of knowledge, highlighting them as extraordinary individuals.

To construct these categories, we analyzed a corpus of 2,772 headlines that reveal tension between advances in women's participation and persistent structural inequalities. Following systematic analysis, we concluded that the media representation of women scientists in both countries presents a mixed picture, with attempts to achieve substantive equality coexisting with traditional interpretive frameworks. The findings demonstrate that institutional momentum is the guiding axis of the regional narrative, accounting for 43.43% in Mexico and 36.50% in Brazil, indicating that the press acts primarily by selectively amplifying attributes aligned with state policies and international organizations. This trend validates the premise that women's inclusion in science is framed through institutional legitimacy rather than professional autonomy. However, the low percentage of coverage categorizing women as objects of study suggests that the oxymoronic "social subject" proposed by Haraway is beginning to crumble, and the press has begun to accept and portray women as legitimate members of academia.

In comparative terms, the study reveals strategic divergences in the construction of the public image of women scientists: Mexico presents a more critical and structural narrative in which denunciation of inequality is significantly higher, and Brazil opts for a narrative that recognizes individual achievement, surpassing Mexico in the visibility of knowledge production. This difference suggests that the Mexican press is more sensitive to structural inequality and the asymmetry within its national system, while the Brazilian press seeks to consolidate the academic authority of its female scientists, who already constitute a majority at the foundation of the system. However, this study has limitations that must be considered: its exclusive focus on headlines excluded the nuances found in the bodies of the articles, the data filtering strategy that resulted in a high proportion of headlines unconnected with the topic of interest, and the lack of an intersectional lens to incorporate variables such as ethnicity or class, which are fundamental in contexts as diverse as those in Latin America. These findings raise important questions that call for further investigation into the complexity of this phenomenon.

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