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Multimethodological analysis of hate speech patterns on social media: A study of Spanish-speaking incel communities

Renobell Santaren, Víctor[*]
Jiménez Idrovo, Ítalo Vinicio[**]
Solórzano Costales, Ángel Xavier[***]
Fuentes de Frutos, Silvia[****]

Abstract

The article analyses the patterns of hate speech present in Spanish-speaking incel communities on social media platforms such as Twitter and Instagram during 2024. The main objective is to develop and apply a mixed methodological approach, combining quantitative and qualitative techniques, to detect and characterise these misogynistic discourses and forms of symbolic violence. To this end, more than 20,000 posts and comments were collected and analysed using sentiment analysis, topic modelling, and discourse analysis, enabling the identification of the main narratives and references within these communities. The principal findings show that a multimethod approach is pertinent for the analysis of hate speech, revealing that patterns vary according to gender and, when referring to women, express emotions associated with social rejection, frustration, and alienation. Among its conclusions, the study highlights that integrating computational and qualitative methods is effective for disentangling the logic and patterns of hate speech in digital environments. Furthermore, the results indicate that the activity of incel communities not only reinforces misogynistic and exclusionary ideologies but also has harmful effects on both women and the members of these groups themselves, deepening participants' isolation and radicalisation.

Keywords: Multimethod analysis; hate speech; social media; incel communities; Spanish-speaking users.

[*]   Doctor en Sociología. Magister en Antropología y Comunicación. Magister en Inteligencia Artificial e Innovación. Magister en Ciencias Políticas. Magister MBA Internacional. Licenciado en Sociología. Profesor Titular en la Universidad Internacional de La Rioja, Logroño, La Rioja, España. E-mail victor.renobell@unir.net ORCID: https://orcid.org/0000-0001-6617-5020

[**] Doctor en Filosofía. Máster en Docencia Universitaria e Investigación Educativa. Licenciado en Filosofía. Profesor Investigador en la Universidad Internacional de La Rioja, Logroño, La Rioja, España. E-mail: italosj@hotmail.com ORCID: https://orcid.org/0000-0001-5269-7987

[***] Magister Universitario en Diseño Gráfico Digital. Ingeniero en Diseño Gráfico. Docente en la Universidad Técnica de Ambato, Ambato, Ecuador. E-mail: ax.solorzano@uta.edu.ec ORCID: https://orcid.org/0000-0001-7215-359X

[****] Doctora en Psicología. Magister en Gestión de Recursos Humanos. Licenciada en Psicología. Profesora Titular en la Universidad Internacional de la Rioja, Logroño, España. E-mail: silvia.fuentes@unir.net ORCID https://orcid.org/0000-0002-0552-8280

Análisis multimetodológico de los patrones de discurso de odio en redes sociales: Estudio de comunidades incel hispanohablantes

Resumen

El artículo analiza los patrones de discurso de odio presentes en comunidades incel hispanohablantes en redes sociales como Twitter e Instagram durante 2024. El objetivo principal es desarrollar y aplicar un enfoque metodológico mixto, combinando técnicas cuantitativas y cualitativas, para detectar y caracterizar estos discursos misóginos y de violencia simbólica. Para ello, se recopilaron y analizaron más de 20.000 publicaciones y comentarios utilizando análisis de sentimiento, modelado de temas y análisis del discurso, lo que permitió identificar las principales narrativas y referentes de estas comunidades. Los hallazgos principales muestran que el enfoque multimétodo es pertinente para el análisis de discursos de odio reflejando que, varían según el género y, cuando se refieren a las mujeres muestran emociones asociadas con el rechazo social, la frustración y la alienación Entre las conclusiones, el estudio destaca que la integración de métodos computacionales y cualitativos resulta eficaz para desentrañar la lógica y los patrones del discurso de odio en entornos digitales. Además, se evidencia que la actividad de las comunidades incel no solo refuerza ideologías misóginas y de exclusión, sino que también tiene efectos negativos tanto en las mujeres como en los propios miembros de estos grupos, profundizando el aislamiento y la radicalización de sus participantes.

Palabras clave: Análisis multimetodológico; discurso de odio; redes sociales; comunidades incel; hispanohablantes.

Introduction

Social media have become a structural and unavoidable element of contemporary everyday life, enabling users to express their opinions freely at any time and on any matter through digital platforms. The exponential growth of these virtual communities is undeniable: the number of social media users continues to rise at an annual rate of 13%, currently exceeding 4.2 billion worldwide, representing 53% of the global population (Kemp, 2024).

These platforms have profoundly transformed not only the forms of social interaction but also the logics of access to and circulation of information and news (Brigas et al., 2023; Faverio & Sidoti, 2024; Oliva et al., 2025). This new communicative ecology fosters the use of emotional language, particularly in public debates concerning controversial or identity-related issues. Nonetheless, the same expressive freedom that characterises these spaces also facilitates the emergence of discursive dynamics aimed at stigmatising and harassing certain social groups (Del Vigna et al., 2017).

The groups targeted by such discriminatory practices may be defined by multiple identity dimensions —such as race, religion, gender, sexual orientation, or ideological affiliation— which often intersect to produce complex forms of intersectional discrimination (Mossie & Wang, 2020). From this standpoint, the academic community engaged in behavioural sciences and social network analysis has shown growing interest in understanding how public opinion is constructed around specific issues and how prejudice and stigma are articulated in digital conversations.

One of the main concerns within this scientific community is the reproduction of aggressive language targeting certain groups, since hate speech on social media not only reinforces classic social divisions based

on race, religion, or sexual orientation, but also generates new focal points of hostility emerging from specific communities, such as the so-called manosphere or incel (involuntary celibate) groups, where misogynistic, anti-feminist narratives and discourses of toxic and reactionary masculinities are propagated (Uceda & Grau-Muñoz, 2024).

The digital environment thus becomes a space where verbal and symbolic aggressions are, in many cases, more frequent and explicit than in offline contexts, given that the technical design of the Internet does not provide sufficient safeguards against online abuse (Zhong, 2020). Consequently, social platforms can become privileged arenas for the stigmatisation and reproduction of hate ideologies insofar as users perceive them as safe environments for disseminating negative content without facing repercussions.

In this context, it becomes particularly relevant to examine how certain digital spaces, such as incel forums or manosphere communities, reproduce and reinforce hate discourses tied to misogynistic and essentialist conceptions of gender relations. These spaces portray women as responsible for men's life problems and promote male victimisation as justification for their prejudices (Isla-Joulain, 2020). They constitute a discursive culture in which inequalities are normalised, and the stigmatisation of women, feminisms, and any deviation from traditional norms of masculinity is actively encouraged.

The manosphere thus operates as a discursive space in which masculine identities are constructed in opposition to, and rejection of, women, who are perceived as enemies or as responsible for the affective and sexual failures of certain men (Uceda & Grau-Muñoz, 2024). This symbolic construction of male and female bodies, and of otherness, generates processes of stigmatisation, guilt, and ridicule directed at women through hate speech, public humiliation, denigrating memes, and victimising narratives. The psychosocial consequences of this symbolic violence affect not only women exposed to these discourses but also the users who participate in such communities, as they may experience dynamics of isolation, anxiety, or reinforcement of misogynistic beliefs (Caldevilla-Domínguez et al., 2022).

From this perspective, the study aims to identify and characterise misogynistic discourses and forms of symbolic violence present within Spanish-speaking incel communities on social media platforms such as Twitter and Instagram during 2024. In this regard, a methodological framework is first presented, integrating quantitative and qualitative text-analysis techniques to detect hate-speech patterns across large linguistic corpora extracted from social networks. This approach enables deeper analytical reflexivity by contextualising the narratives within their discursive spaces of production and providing new interpretative insights (Ophir et al., 2020).

Secondly, the study illustrates the practical application of this methodological framework through the analysis and interpretation of unstructured textual data extracted from two of the main contemporary social media platforms. The empirical context of the research focuses on a specific case of hate speech associated with the dynamics of discrimination, misogyny, and symbolic violence found within the digital spaces of the manosphere and incel communities.

1. Theoretical foundation

Hate speech can be defined as public expressions conveyed through discriminatory language whose purpose is to delegitimise, denigrate, or dehumanise specific individuals or groups (Delgado & Stefancic, 2014). In an era dominated by technology, and in particular, social media, these platforms have become the quintessential arenas of interaction and communication especially for certain groups, such as the incel (involuntary celibate) community, which brings together men who, despite their desire, are unable to establish romantic or sexual relationships (Maryn et al., 2024).

The origins and underlying values of

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incel communities have been examined by several scholars (Cuthbert, 2023; Aiolfi et al., 2024; Johanssen & Kay, 2024), who have highlighted their misogynistic nature and, in some cases, their function as promoters of hate speech directed against women. Incel communities have primarily gained visibility through online forums and social media platforms, where participants share frustrations about their perceived lack of success in romantic relationships (Baselice, 2023). However, as these discussions evolve, a recurrent pattern emerges in which victimisation and the attribution of blame to women often escalate into a broader discriminatory movement with global reach (Benassini, 2022).

The theoretical grounding of this study includes a review of the literature that outlines the main methodologies employed in hate speech detection, particularly in the analysis of discursive dynamics within the manosphere and incel communities on social platforms. This review places particular emphasis on automated analysis techniques and data-driven methods. Such techniques have been used in studies seeking to identify discursive patterns associated with the manosphere and incel subcultures, whose activity on social media has become a topic of increasing academic interest due to its potential role in reproducing stigma, misogynistic discourses, and narratives of male victimisation.

Various strands of the existing literature have contributed to shaping a methodological framework that enables the development of a rigorous, systematic analysis grounded in a logical chain of evidence by combining Natural Language Processing (NLP) techniques with other pattern-detection methods, such as lexical frequency analysis and critical discourse analysis. Recent studies have combined sentiment analysis and topic modelling to detect hate speech and examine its underlying discursive and thematic patterns.

A notable example is the study by Pronoza et al. (2021), who employed Aspect-Based Sentiment Analysis (ABSA) to identify specific instances of hate speech in Russian social networks. They found that their models achieved substantial improvements when integrating linguistic and sentimental features into pre-trained BERT models with additional dense layers. Similarly, Shibly et al. (2020) used sentiment analysis techniques to validate the affective polarities within a hate speech dataset, subsequently combining them with thematic classification procedures to identify the predominant topics within the corpus. Their findings showed that the most recurrent forms of hate speech revolved around issues of race, ethnicity, gender, and religion.

This growing development of computational methodologies for detecting bias, prejudice, and discriminatory messages in unstructured, unlabelled data derived from social media platforms undoubtedly represents a rapidly expanding area of research. In this context, applying such approaches to the analysis of virtual communities such as the manosphere and incel forums becomes particularly relevant, as the articulation of misogynistic, self-victimising, and violent discourses within these spaces exhibits specific discursive and affective features that require robust and context-sensitive methodological frameworks.

Regarding the types of analysis, sentiment analysis reveals users' stances (positive, negative, or neutral) within a specific context. In contrast, emotional analysis identifies the predominant emotions (such as anger, surprise, and trust) inferred from linguistic choices. Furthermore, sentiment analysis using Stanford CoreNLP (Manning et al., 2014) enables the assessment of specific posts within the corpus by assigning them sentiment values ranging from -1 (negative), 0 (neutral), to +1 (positive). This score is calculated by summing the sentiment ratings of each word within a post or comment.

In discourse analysis, some scholars (Shirazi, 2013; Törnberg & Törnberg, 2016) argue that, in cases such as hate speech, the thematic categories uncovered may provide a broader social context for the phenomenon under study, thereby facilitating its interpretation. When searching for hate speech

patterns, it is essential to identify the main targets of offensive expressions, determine which types of content or words have the greatest impact, and assess whether intense discussions arise from specific triggering events.

Manual exploration within discourse analysis remains indispensable; therefore, the inclusion of relevant data excerpts is fundamental. In this sense, technological tools such as sentiment analysis can assist in filtering for pertinent posts or comments, enabling a more accurate discursive examination across large datasets.

From a theoretical standpoint, it is also important to note that, in a study of this nature, methodological actions—such as data collection—necessarily begin with a prior understanding of the research context. This involves selecting relevant keywords and determining which digital data sources to explore. Consequently, it is essential to conduct a thorough review of specialised academic literature to identify key terms and expressions that reflect the object of study and serve as a starting point for textual data mining.

Accordingly, given the need to analyse discourses linked to the manosphere and the incel communities, a selection of keywords was carried out based on previous research on toxic masculinity, digital misogyny, and incel communities. Terms such as 'machos', 'alpha men', 'real men', 'feminazi', and 'high-value women', among others, were used to guide the process of text extraction and mining. Additionally, depending on the study's specific orientation, this list of keywords was expanded or refined. For example, to explore discursive articulations around sexuality and gender representations within the manosphere, further terms related to these dimensions (such as 'slut', 'whore', and 'snake woman', among others) were incorporated.

Subsequently, it becomes necessary to identify the most relevant social platforms for data collection. The empirical data, obtained from the selected keywords, were extracted using scraping techniques or public APIs of digital platforms. In previous research, Twitter has been widely employed in the analysis of digital communities associated with hate speech (Wanniarachchi et al., 2022); however, other platforms such as Instagram—with its image-oriented structure and threaded comment systems (Curiskis et al., 2020)—are gaining increasing prominence in this line of investigation.

In this study, Twitter (now X) and Instagram constitute the principal data sources. Given that this research aims to identify linguistic patterns within discourses associated with the manosphere and incel communities, textual corpora were constructed from public debates and conversations available on these platforms. To this end, scraping tools and official public APIs were used to systematically collect textual data suitable for inclusion in the analysis corpus. It is important to note that these corpora consist exclusively of written words, excluding any non-textual content (such as images or videos), which facilitates subsequent computational analysis.

In summary, to understand the patterns of hate speech on social media related to Spanish-speaking incel communities, it is essential to situate the emergence of this movement and interpret it in light of such contextualisation. These communities are largely composed of young men experiencing profound feelings of frustration and alienation, which often lead to the creation of virtual spaces oriented towards mutual support. However, this search for belonging frequently turns into fertile ground for misogyny and other forms of hate, a phenomenon that must be understood in all its complexity.
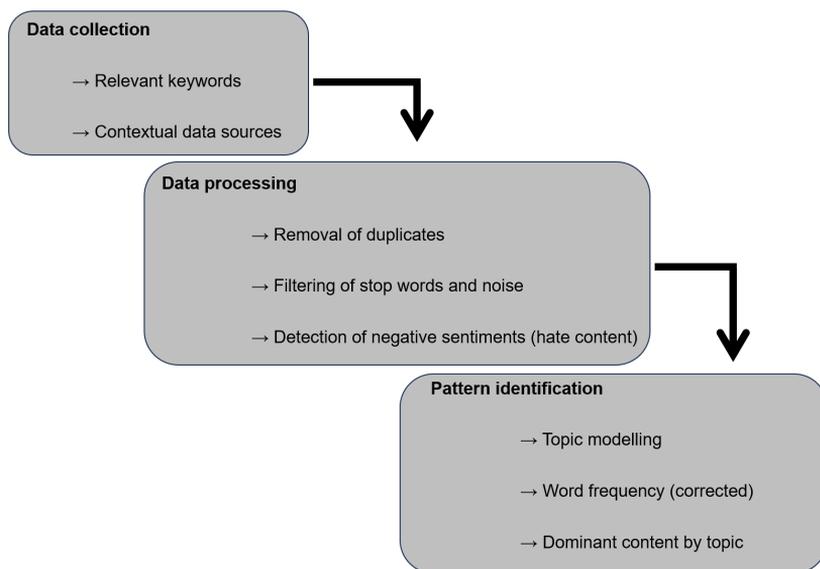
2. Methodology

In research focused on emerging digital phenomena such as the hate discourses produced within online communities of the manosphere or incel groups, the methodological dimension becomes particularly relevant, as these environments generate complex discursive dynamics

characterised by internal codes, specific lexicons, and strategies of symbolic exclusion. Therefore, the methodological design must not only adequately capture these discursive particularities but also ensure that subsequent analyses are grounded in approaches capable of disentangling their ideological, affective, and sociocultural implications.

The proposed methodological framework, outlined in Figure I, provides an accurate representation of the procedures required in each of the identified phases:

data collection, preprocessing, analysis, and the detection of discursive patterns. The present study aims to uncover the underlying patterns within textual content extracted from social media, with the goal of identifying the discursive dynamics that characterise manosphere and incel communities. Nevertheless, the methodological framework proposed here features an architecture sufficiently versatile and transferable, making it applicable to other forms of hate speech emerging within the digital ecosystem.

Source: Own elaboration, 2025.
Figure I: **Proposed methodological framework**

It should be noted that although the study of hate speech on social media—and particularly the analysis of incel communities—has been explored from diverse perspectives, drawing on significant contributions from previous research (Kent et al., 2016; Lydecker et al., 2016; Brooker et al., 2017; Holmberg et al., 2018; Jeon et al., 2018), there remains a scarcity of studies that

deploy automated methodologies based on natural language processing (NLP) techniques (Wanniarachchi et al., 2022). Much of the prior work has focused on manual analysis of small textual corpora, which limits both the scope and representativity of the findings.

The methodological procedure follows conventional Natural Language Processing (NLP) protocols, integrating data collection

and preprocessing stages, and subsequently combining sentiment analysis, emotion analysis, topic modelling, lexical frequency analysis, and discourse analysis. The aim is to examine the rhetorical, thematic, and affective strategies associated with manosphere and incel discourses across various digital platforms.

For example, the outcomes of sentiment analysis allow the corpus to be filtered, selecting only those fragments or utterances characterised by negative sentiments, which then serve as input for subsequent topic modelling procedures aimed at identifying the principal narrative and thematic structures within the analysed hate speech discourses. Topic modelling further facilitates the discovery of the most salient themes. It identifies the posts or comments most representative of each, which may then be subjected to more detailed qualitative discourse analysis.

When extracting data from social media, one of the chief issues is duplicate information. On Twitter, most duplications arise through retweets. While retweets can be removed during the Twitter data collection phase, duplicate posts on Instagram require explicit deletion. Extracting knowledge from raw textual data is a complex task; unnecessary data can distract and yield inconsistent results in subsequent processes. Therefore, removing stop words and noise is crucial during preprocessing. Common stop words include prepositions (such as of, to, by) and conjunctions (and, or, also), which are functional but do not provide relevant information, which serve grammatical functions but do not contribute substantive information (Boban et al., 2020).

For this analysis, hate speech related to incel communities on the social media platforms Twitter (now X) and Instagram was studied during the first half of 2024, from 1 January to 30 June. More than 20,000 comments and posts were analysed, previously selected according to the criteria described above.

To locate incel communities on Twitter and Instagram, relevant keywords and hashtags associated with the incel ideology were first identified in both Spanish and English, such as #incel, #mujeresmalas, #hombreslibres, #mgtowespañol, #antifeminismo, #redpillhispano, #solteroparasiempre, #machoslibres, #falsasdenuncias, #stopfeminismo, #machos, #hombresdeverdad, #badwomen, #freemen, #antifeminism, #singleforever, #freemales, #falseaccusations, #stopfeminism, #malesreal, #realmen, #foreveralone, #redpill, #MGTOW, among others (in addition to various insults used in a derogatory way to refer to women).

Using these keywords, an advanced search was conducted across Twitter and Instagram to identify accounts, conversations, and groups where these terms were used repeatedly. Subsequently, profiles and interactions were analysed to detect behavioural patterns, posting frequency, and follower networks, which enabled the identification of active communities and their main influencers in Spain and Latin America. Furthermore, social network analysis tools were used to map connections among users and to visualise the structure of the incel community on Twitter and Instagram.

3. Results and discussion

This study proposes a methodological framework for analysing patterns of hate speech in social media discussions. Although methods such as sentiment analysis and topic modelling have previously been integrated in research on hate speech (or stigmatisation in the manosphere and incel communities), their application to the identification of specific patterns within such discourses remains scarcely explored. Moreover, few studies have incorporated advanced techniques from natural language processing and machine learning alongside discourse analysis to uncover the social dynamics associated with these phenomena.

Consequently, it is necessary to thoroughly examine the relevance and linguistic currency of the words used

in everyday conversations within these platforms. Furthermore, when collecting relevant data through keyword searches, the same comment or post will likely be obtained repeatedly. The Twitter and Instagram APIs enabled the removal of retweets (or duplicated tweets and comments) during data collection. This methodological approach, applied to the study of digital communities such as incel and manosphere groups, enables a deeper investigation of the discursive dynamics underlying these complex social interactions, contributing to scholarly understanding of emerging phenomena in digital environments.

After preprocessing the collected data, a sentiment and emotion analysis was conducted. This process enabled the identification of patterns of emotions and sentiments dispersed throughout the dataset, providing deeper insight into the predominant emotions associated with specific contexts within the manosphere and incel communities. Additionally, sentiment analysis facilitated filtering negative content, which proved essential for subsequent analysis, given that the aim is to understand patterns of hate speech arising from negative sentiments.

The dataset compiled via keyword searches must be contextualised in line with the study's objectives. Thus, to observe patterns of hostile discourse within the manosphere and incel groups, it is first necessary to eliminate content expressing positive sentiments, as such content would constitute noise in detecting patterns associated with hostile speech. Content indicating negative sentiment is selected to understand the underlying dynamics of offensive discourse better. Finally, discourse analysis yields a richer comprehension of negative subjective content, without indiscriminately labelling all such material as offensive.

The theoretical framework of this article provides the foundation for combining sentiment analysis, topic modelling, and subsequent discourse analysis to identify relevant topics or categories (for example, hostile discourse against women in the manosphere) in digitally mediated social discussions. The following section presents the results from the data-driven analytical methods described in our methodological framework for studying emerging patterns within these communities.

It should first be noted that, given the breadth of the two methodological approaches employed to analyse sentiment values, conduct emotion analysis, and generate sentiment labels applied to text blocks representing posts or comments on social media, only an excerpt of the results is presented in this section of the article, owing to the length restrictions imposed by the target journal; nevertheless, the results included here are sufficient to demonstrate the achievement of the study's objectives.

All collected data (including posts and comments extracted from Twitter and Instagram) were organised into a single document for sentiment analysis. This approach enables the calculation of overall positive and negative sentiment scores free of researcher bias. It also proves useful for comparing two distinct datasets. Subsequently, emotion analysis can be applied to objectively assign scores to eight primary emotions: anger, anticipation, disgust, fear, joy, sadness, surprise, and trust. Tools such as PyPlutchik (Semeraro et al., 2021) facilitate the interpretation of how these emotions relate to one another and highlight which are most prominent within the linguistic corpus.

For sentiment analysis, the value for each selected post or comment was calculated using the NRC dictionary. Subsequently, the calculated sentiment values were compared between the masculine and feminine genders to identify significant patterns. The graphical representation of the overall distribution of valence (sentiment) scores for both genders is presented in Graphic I.
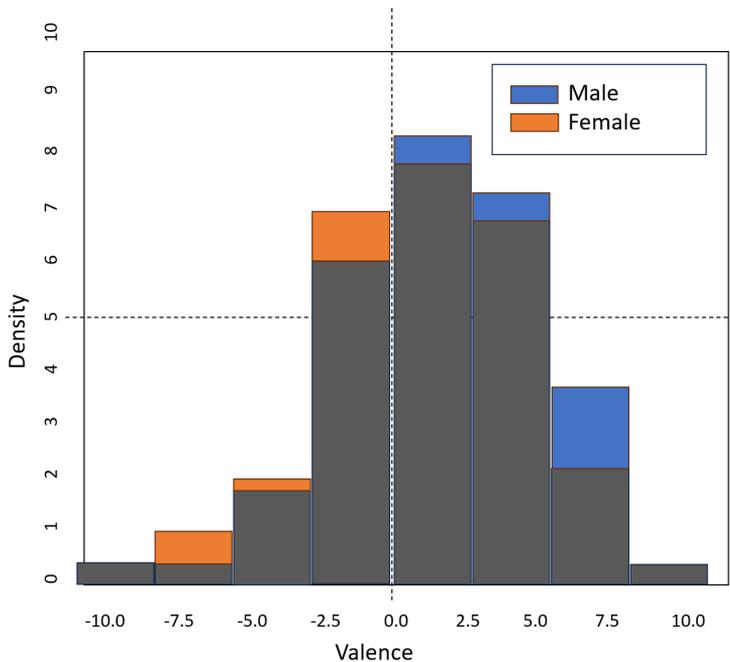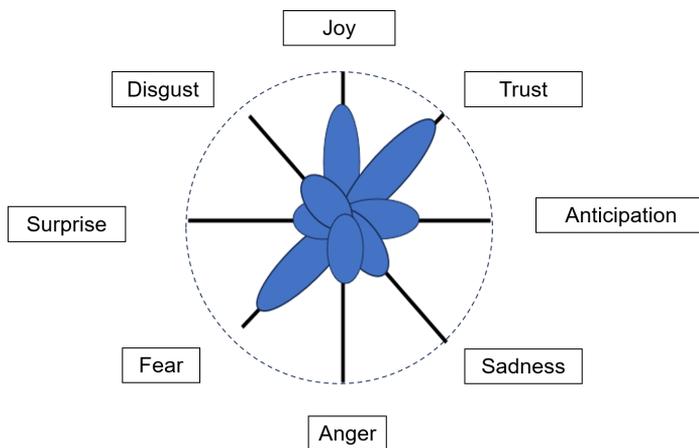
Source: Own elaboration, 2025.
Graph I: **Overall distribution of valence (sentiment) scores**

The results show considerable overlap in the sentiment values for men and women, with no significant differences in the distributions of negative and positive sentiment. However, it is observed that social media content directed towards women tends to reflect more negative than positive sentiments. This finding is particularly relevant in the context of the manosphere and incel discourses, where narratives are often suffused with emotions associated with social rejection, frustration, and alienation.

Regarding emotion analysis, scores for eight primary emotions—anger, anticipation, disgust, fear, joy, sadness, surprise, and trust—were objectively determined. Using Plutchik's wheel (Semeraro et al., 2021), these emotions were analysed across the entire linguistic corpus. The study of 20,000 comments and posts from male and female

users revealed that the predominant emotional expressions manifested as disgust and sadness. In this context, women tended to receive more expressions of disgust, anger, and sadness, whereas men received more expressions of trust, joy, and fear.

As for the specific analysis of emotions in discussions related to the manosphere and incel communities on social media, it was found that disgust intensified into a category approaching visceral hatred, while sadness resembled profound grief. This phenomenon reflects a complex emotional dynamic within these digital communities, where interactions tend to be marked by high levels of emotional polarisation. The general analysis reveals that women tend to express more negative emotions in debates on these topics than men, as illustrated in Figures II and III.

Source: Own elaboration, 2025.
*Figure II:* **Emotional dynamics of comments about men**
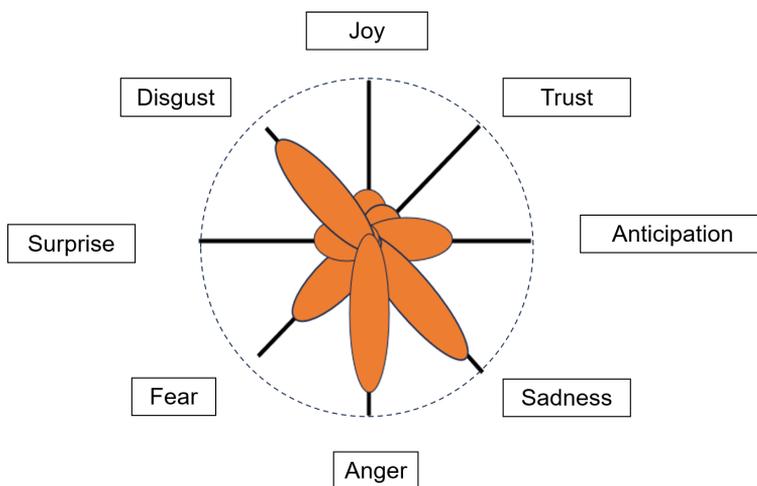
Source: Own elaboration, 2025.
Figure III: **Emotional dynamics of comments about women**

Considering the results presented in Figures II and III, and in line with the comprehensive perspective advanced by this study regarding patterns of hate speech on social media: a study of Spanish-speaking incel communities, Graph II illustrates the contrast between emotions expressed towards men, on the one hand, and towards women, on the other.
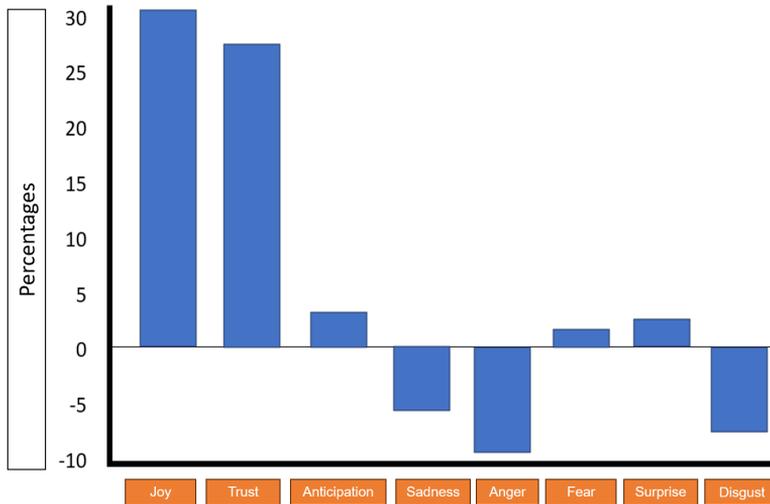
Source: Own elaboration, 2025.
Graph II: **Differences in expressed emotions**

Likewise, within this set of results, it is worth presenting the sentence-level analysis of the messages, which was carried out to extract sentiment polarity. In this regard, Table 1 shows the sentiment polarity labels (negative, neutral, and positive) for three sentences that have been preprocessed (i.e., cleaned of stop words and other noisy characters). After obtaining the labels for each text block, only the content labelled as negative was filtered and used as input to the pattern identification stage.

Table 1
Sample data for sentiment labeling

Clean text	Rating	Sentiment
Women of little worth are the worst and worthless, please, they should know they must die	-1	negative
I am not a feminist and I respect everyone	0	neutral
Women are equal to men	1	positive

Source: Own elaboration, 2025.

At this point, it is important to emphasize that, in analyses adapted to the manosphere and incel contexts, it is crucial to consider how emotions expressed on social media reflect specific dynamics within these digital communities. Emotional wheels are reinterpreted to explore how dominant masculine discourses in these spaces amplify emotions such as anger or contempt in contrast to those associated with vulnerability or empathy. In this regard, Figure III is particularly relevant for examining how these communities exhibit gender-based emotional differences, highlighting distinctive patterns, such as a greater prevalence of disgust or frustration among men within these groups.

Moreover, sentiment labeling becomes relevant for identifying recurrent negative polarities in narratives about social perceptions or personal experiences shared by incels. This approach enables mapping specific discursive patterns and analyzing how these communities structure their emotional interactions in response to both external and internal contexts. Indeed, this phenomenon appears to be associated with the discursive dynamics characteristic of incel forums and other digital subcultures, where narratives are reinforced that question the validity of certain masculinities by linking them to traits perceived as "feminine" or "weak."

Conclusions

In retrospect, this article presents a methodological framework for analyzing real conversations on digital platforms, specifically focusing on hate speech related to the manosphere and incel communities. The proposed framework provides methodological foundations for automated linguistic analysis using data extracted from social media. The explicit articulation of context is essential for revealing relevant discursive patterns. Furthermore, the study highlights the importance of combining quantitative and qualitative approaches to generate insights applicable to complex sociocultural

phenomena.

The study revealed significant themes regarding how men and women position themselves within this context. The analytical tools showed a mixture of positive and negative sentiments toward both genders, depending on the specific characteristics of each group (incel men and "high-value" women). Emotional analysis indicated a higher emotional intensity directed toward women than toward men within the incel environment. Expressions of contempt were primarily directed at women, while expressions of sadness were more commonly directed at men. These findings refined the sentiment analysis results and underscored that, although men received slightly more positive comments, women experienced a broader emotional range associated with their categorization as "high-value women" or as part of other female subgroups.

The integration of advanced natural language processing (NLP) techniques enables the identification of discursive patterns related to hatred toward women and other groups perceived as "inferior." Although this study focuses on misogynistic discourse within the manosphere and incel communities, the proposed framework can be extended to other categories of hate speech. The results obtained may contribute to the development of algorithms designed to mitigate harmful content on social media platforms.

In general, the themes identified in this study provide valuable insights into how biases related to gender and physical appearance are reflected in discussions within these communities. Common categories were found across male and female datasets, including concepts such as "high-value women," "alpha men," "feminazis," and "celibate men." A detailed analysis reveals how objectification manifests both sexually and symbolically. In the case of masculine discourse, sexual references include terms laden with negative connotations toward women, which perpetuate stigmas and traditional gender roles. These expressions not only expose the objectification of the female body but also illustrate how such

communities reinforce hierarchical power dynamics and exclusion.

Among the study's limitations is its exclusive reliance on tools grounded in prior literature and the researchers' experience. Future studies could compare multiple analytic tools to determine their relative effectiveness. Likewise, although the current approach is limited to textual analysis, future research should incorporate methods for analyzing visual and auditory content. Finally, while this framework was tested on Twitter and Instagram, it would be valuable to extend its application to other types of digital media, such as specialized forums or TikTok.

In sum, the article demonstrates how computational methods can be used to analyze social patterns from an interdisciplinary perspective. It thus opens avenues for future research in which this methodological framework may be employed to address broader social issues, such as detecting negative discourses targeting vulnerable groups on the basis of gender, ethnicity, or ideological affiliation.

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