

Iranians' emotional expression on social media and its impact on audience engagement

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Article Info	Abstract
Original Article Main Object: Culture Scope: Iran Received: 15 April 2026 Revised: 18 May 2026 Accepted: 02 June 2026 Published online: 21 July 2026 Keywords: emotional language, Persian social media, polarization, sentiment analysis, social media engagement.	This study explores the role of emotional language in shaping audience engagement on social media, with a specific focus on Persian-language discourse on Platform X. With a pragmatic approach and using a dataset of 18,900 social media posts spanning four diverse topics— diplomatic events, cultural celebrations, media controversies, and student perspectives— this research applies sentiment analysis and statistical modeling to examine how emotional intensity influences user interactions. Our findings reveal that posts expressing anger generate the highest levels of engagement, while happy sentiments also contribute positively. Conversely, extreme negativity, such as furious expressions, tends to reduce engagement. Additionally, the study highlights the role of polarized discussions in attracting user attention, with politically charged and controversial topics outperforming others. A Generalized Linear Model (GLM) with a Tweedie distribution confirms the significant impact of emotional language, demonstrating that heightened emotional intensity correlates with increased audience responses. The study also considers the implications of emotional language for misinformation, polarization, and digital discourse quality.

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1. Introduction

As of the most recent data in 2024, social media usage has reached unprecedented levels, with 5.04 billion users worldwide, representing 62.3% of the global population (Kemp, 2024). On average, users spend approximately 2 hours and 23 minutes per day on social media platforms, with younger demographics, particularly those aged 16 to 24, spending upwards of 3 hours daily (*We Are Social*, 2024). Facebook continues to dominate as the most widely used platform, with 3.07 billion monthly active users, followed by YouTube (2.49 billion), WhatsApp (2 billion), and Instagram (2 billion) (*Meta*, 2024; *Alphabet*, 2024). TikTok, the short-form video platform, has experienced exponential growth, now boasting 1.8 billion monthly active users, making it one of the fastest-growing platforms globally (*TikTok*, 2024). Regionally, Asia remains the largest hub for social media users, with China and India leading in absolute numbers, while North America and Europe exhibit the highest penetration rates, with over 75% of their populations actively using social media (Kemp, 2024). Yet these global averages mask uneven access in resource-limited contexts, where inadequate infrastructure systematically excludes marginalized populations from digital participation (Mohammadi & Kharazmi, 2021). The widespread adoption of social media has fundamentally transformed communication, information dissemination, and content consumption, solidifying its role as a cornerstone of modern digital life. Amid such transformative digital dynamics, professionals must develop adaptive skills and interdisciplinary perspectives to navigate increasingly complex information environments (Hosseini, et al., 2021).

There is some evidence that among the myriad factors that influence user engagement on these platforms, emotional language stands out as a critical driver of audience interaction. Emotions, whether positive or negative, may have the power to captivate attention, evoke strong reactions, and foster connections among users. This phenomenon is particularly evident in the context of sensational posts—content that is emotionally charged, provocative, or controversial—which often garners disproportionate attention and engagement. Understanding the role of emotional language and sensational content in attracting users' attention is essential for comprehending the dynamics of digital communication and its impact on public discourse.

In their article, Nosraty, Sakhaei & Rezaei (2021) describe how social media has been increasingly linked to negative impacts on users' mental health, with studies highlighting its role in fostering anxiety, depression, and feelings of inadequacy. Excessive use of social media and being succumbed to its sensationalist rhetoric can lead to social comparison, where individuals measure their lives against the often idealized and curated content shared by others, resulting in lowered self-esteem and increased feelings of inadequacy. The constant exposure to negative news, sensational posts, cyberbullying, and online

harassment, Nosraty and her colleagues emphasize, further exacerbates stress and anxiety, particularly among younger users. This psychological toll parallels the damaging effects of unrealistic beauty standards proliferating through digital platforms, where curated perfection fuels body dissatisfaction and mental health disorders.

Additionally, the addictive nature of social media, driven by algorithms designed to maximize engagement (Sarfi et al., 2021; Shahghasemi, 2025), can disrupt sleep patterns, reduce face-to-face interactions, and contribute to a sense of isolation. These cumulative effects highlight the critical role of education in fostering media literacy, resilience, and ethical digital practices; key factors in mitigating harm and promoting sustainable engagement (Zamani et al., 2024).

Emotions play a fundamental role in human communication, influencing how messages are perceived, interpreted, and shared. On social media, where content is consumed rapidly and often in a fragmented manner, emotional language can serve as a powerful tool for capturing users' attention (Soroori Sarabi et al., 2020). Research has shown that posts expressing strong emotions, whether anger, joy, or sadness, are more likely to be shared and engaged with than neutral content (Berger & Milkman, 2012). This is because emotions act as a signal, drawing users' attention to content that is perceived as relevant, impactful, or worthy of discussion. In this sense, emotional language functions as a catalyst for engagement, amplifying the reach and influence of social media posts.

Sensational posts, in particular, thrive on the emotional responses they elicit. These posts often employ provocative language, dramatic imagery, or controversial topics to evoke strong emotional reactions from users. The appeal of sensational content lies in its ability to tap into users' cognitive and emotional biases, making it more memorable and shareable (Peters et al., 2013). For instance, posts that evoke anger or outrage are particularly effective at driving engagement, as they often prompt users to react, comment, and share the content with their networks (Brady et al., 2017). Similarly, content that elicits joy or amusement can predict positive interactions, encouraging users to like, share, and comment on the post. In both cases, the emotional intensity of the content plays a crucial role in determining its virality and impact.

The role of emotional language in social media engagement is further amplified by the algorithmic design of platforms (Metzler & Garcia, 2024), which prioritize content that generates high levels of interaction. Like all complex technological systems, these algorithms embody an innovation-risk paradox (Salehi & Habib Zadeh Khiyaban, 2025); while they have been engineered to optimize engagement, they systematically introduce new societal vulnerabilities through their operation (Soroori Sarabi et al., 2023). These unintended consequences reveal a critical truth: for such systems to benefit society without

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causing disproportionate harm, they require both robust regulatory frameworks to ensure platform accountability and targeted training programs to align algorithmic design with human values (Tomraee et al., 2022). Social media algorithms are designed to maximize user engagement, often favoring posts that elicit strong emotional reactions (Winters, 2019). This single-minded focus on engagement metrics routinely overrides considerations of human judgment in content distribution - a pattern seen across technology sectors where optimization threatens to eclipse nuanced decision-making (Tomraee et al., 2024). As a result, sensational content—whether it is a polarizing political statement, a heartwarming story, or a shocking news headline—tends to dominate users' feeds, shaping the overall tone and direction of public discourse. This creates a feedback loop, where emotionally charged content is more likely to be promoted by the platform, leading to even greater engagement and visibility.

However, the prevalence of sensational posts on social media also raises important questions about the quality and integrity of public discourse. While emotional language can enhance engagement, it can also contribute to the spread of misinformation, polarization, and echo chambers (Vosoughi et al., 2018; Sabbar & Hyun, 2016). This effect is particularly pronounced when content adopts the same framing techniques used by traditional media - reducing complex issues to simplistic narratives of blame or ideological conflict (Kharazmi & Mohammadi, 2020). Sensational content often prioritizes emotional impact over factual accuracy, leading to the dissemination of misleading or false information. Moreover, the emphasis on emotionally charged content can exacerbate societal divisions, as users are more likely to engage with posts that align with their preexisting beliefs and values (Bakshy et al., 2015). This reveals the dual nature of emotional language on social media: while it can provide connection and engagement, it can also perpetuate conflict and misinformation (Sabbar & Matheson, 2019). And when we want to assess the impact of sensationalism in the Iranian social media environment, the story becomes even more complicated.

Social media usage in Iran has grown significantly over the past decade, despite the country's complex and often restrictive digital landscape (Shahghasemi & Prosser, 2019; Shahghasemi, 2021). As of 2024, approximately 76 million Iranians are active internet users, representing 85% of the population, with a substantial portion engaging in social media activities (Kemp, 2024). Platforms such as Instagram and WhatsApp are among the most popular, with millions of users despite government restrictions and blocks. Instagram, in particular, has become a vital space for social interaction, business, and cultural expression, with an estimated 40 million active users in Iran (Statista, 2024). However, the Iranian government has implemented stringent controls over social media, including shutdowns of platforms during

times of political unrest and the promotion of domestic alternatives like Rubika and Soroush. These state-backed platforms aim to reduce reliance on foreign services but have struggled to gain the same level of popularity and user engagement as their international counterparts.

The role of social media in Iran extends beyond personal communication, serving as a critical tool for political activism, news dissemination, and cultural exchange. During periods of social and political upheaval, such as the widespread protests in 2022 and 2023, platforms like X and Instagram became essential for organizing demonstrations, sharing real-time updates, and bypassing state-controlled media narratives (*Human Rights Watch*, 2023). Despite government efforts to monitor and restrict access, many Iranians use virtual private networks (VPNs) to circumvent censorship and maintain connectivity with the global digital community. This resilience highlights the importance of social media as a space for free expression and mobilization in a country where traditional media is heavily regulated.

With over 5 billion global users engaging daily on social media, these platforms have evolved into powerful spaces for the dissemination of information and emotional expression. Within this ecosystem, emotional language has emerged as a key driver of engagement, capable of eliciting reactions, shaping opinions, and amplifying content visibility. Prior studies (see for example Keib et al., 2017) have underscored the capacity of emotionally charged content—especially sensational or polarizing posts—to attract attention and provoke interaction, often at the expense of accuracy or social cohesion. This is particularly significant in Iran, where digital communication plays a vital role in circumventing media censorship and mobilizing political sentiment. Iranian users, despite government-imposed restrictions and surveillance, continue to rely on platforms like Instagram and Platform X to express opinions, engage in sociopolitical discourse, and navigate cultural identity. However, the emotionally laden nature of much of this content raises concerns about the quality of online communication, the spread of misinformation, and the psychological toll of constant exposure to emotionally manipulative content.

Against this backdrop, the study was motivated by the need to understand how different types and intensities of emotional language influence user engagement on Persian-language social media. The core problem addressed by the research is the tension between emotionally engaging content and its potential for contributing to polarization, sensationalism, and mental health challenges. While emotionally intense posts may boost visibility and interaction, they may also distort public discourse and exacerbate social divisions. Therefore, the purpose of the study was to investigate the relationship between emotional sentiment and audience response, focusing on how expressions of

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anger, happiness, neutrality, and other emotions affect post engagement across four topical areas. The theoretical approach of this study is pragmatics.

The pragmatic approach to language study centers on understanding how meaning is constructed and interpreted within specific contexts, emphasizing the relationship between linguistic expressions and their communicative functions. Unlike semantic analysis, which focuses on the literal meanings of words and sentences, pragmatics considers the speaker's intentions, the listener's interpretations, the situational context, and the underlying assumptions that influence communication. Key concepts in pragmatics include speech acts (Austin, 1962; Searle, 1969), implicature (Grice, 1975), deixis, and presupposition, all of which contribute to how utterances perform actions and produce effects beyond their surface meaning. In the context of digital communication, especially on social media platforms, pragmatic analysis provides critical insights into how language operates within highly interactive, emotionally charged, and culturally embedded environments. Emotional expressions, for instance, are not merely descriptors of affective states but function as performative acts intended to provoke engagement, express solidarity, signal dissent, or invite reaction (Yus, 2011). Therefore, pragmatics allows scholars to explore not just what is said but what is accomplished through language use, particularly when emotions are strategically deployed in public discourse.

Applying a pragmatic approach is especially well-suited to analyzing emotionally charged language on social media, where posts are crafted with the implicit aim of influencing audience behavior. In these settings, emotional expressions are performative; they do things, such as drawing attention, building group identity, or inciting debate. A sentiment analysis that only categorizes texts into positive or negative lacks the interpretive depth that pragmatics provides. Pragmatic analysis offers tools for examining how emotional cues operate within communicative acts and how users interpret these cues within their sociocultural contexts. This is particularly important in environments like Persian-language discourse on social media, where cultural norms, political constraints, and audience expectations shape how messages are formulated and received. Moreover, pragmatic inquiry facilitates the interpretation of implicit meanings and rhetorical strategies embedded in emotional language, which are essential for understanding audience engagement patterns. As such, a pragmatic framework not only enriches the linguistic analysis but also enhances the explanatory power of research on digital discourse by focusing on intention, context, and interactional outcomes (Blakemore, 2002; Zufferey, 2015). This makes it an indispensable approach for scholars seeking to uncover the real-world communicative functions of emotional language online.

With that in mind, the authors aimed to provide empirical evidence through sentiment analysis and statistical modeling, to offer insights

into the broader implications of emotional language in digital communication. The primary research question of this study is:

RQ1: Does the use of emotional language and heightened emotional intensity in messages increase audience feedback on social media?

This question guides the investigation into how various emotional sentiments—such as anger, happiness, neutrality, and extreme negativity—impact user engagement, measured through metrics like likes, reposts, and comments (collectively captured under the term "Post Weight").

In addition to this overarching question, the study addresses the following sub-questions:

RQ2: Which specific emotional sentiments (e.g., Angry, Happy, Furious, Neutral, Delighted) are most strongly associated with higher levels of user engagement?

RQ3: How does the polarity of a post (i.e., whether it reflects a polarized or unipolar discourse) influence engagement outcomes?

RQ4: Do engagement levels vary significantly across different topical categories, such as political discourse, cultural celebrations, media controversies, and student perspectives?

RQ5: To what extent does the overall emotional intensity of a post (measured by the Post Sentiment Score) correlate with audience interaction?

2. Review of literature

A foundational concern for the current study is the relationship between what people express online and what they actually feel or experience in their offline lives. Elahimanesh, Mohammadkhani and Kasaei (2025) directly address this question in their investigation of the Persian-language community on Platform X. Using a Transformer-based pipeline that combined text and image sentiment analysis, the researchers measured the alignment between participants' social media expressions and the emotional assessments provided by their real-world friends. Their sample of 105 participants, 393 friends, over 8,300 tweets, and 2,000 images yielded a striking asymmetry: while tweets showed a relatively high alignment with real-world feelings (75.88%), images were far less representative of actual emotional states, with a similarity rate of only 28.67%. These findings are directly relevant to the present study's interest in how emotional language on Platform X functions as a communicative act, since they suggest that text-based emotional expression on this platform, while imperfect, is considerably more reflective of authentic sentiment than visual content. This reinforces the pragmatic premise underlying our analytical framework—that words on social media are not merely decorative but

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are purposive acts that carry real emotional meaning, even if the full picture is not always disclosed.

The question of what people choose to disclose on social media—and under what conditions—is further examined by Koohikamali, Kermani and Rabiei-Dastjerdi (2021), whose survey-based study of 379 Iranian participants investigated the role of privacy concerns in shaping information-sharing behavior. Their model distinguished between self-disclosure, disclosure about others, and non-personal sharing, and tested these against measures of engagement. The results revealed that privacy concerns about oneself negatively predict self-disclosure, and concerns about others negatively predict disclosure about others. Importantly, non-personal sharing was positively associated with all three outcome variables—self-disclosure, disclosure about others, and engagement. This finding carries particular relevance for Iranian users, who operate under significant governmental surveillance and internet restrictions, conditions that simultaneously suppress some forms of expression while redirecting users toward seemingly safer, non-personal content. When read alongside our findings that politically themed and polarized posts generate the highest engagement levels, Koohikamali et al.'s work suggests a complex dynamic: Iranian users may suppress direct personal disclosure while channeling their emotions and political sentiments through topically charged, non-personally attributed content. This behavioral adaptation may partly explain why angry and politically resonant posts attract disproportionate engagement on platforms like X.

The dark side of anonymous online expression becomes visible in the work of Meraji Oskuie, Mohamadkhani, Delavar and Farhangi (2021), who examined trolling and flaming behaviors among Iranian social media users through a non-recursive structural model applied to a sample of 989 participants. Their findings established that low self-control is the pivotal variable in predicting online transgression; neither depression nor negative interpersonal relationships exert direct effects on trolling and flaming, but both do so indirectly through low self-control, which acts as a mediating mechanism. The non-recursive structure of their model also captures the reciprocal relationships among these psychological variables, acknowledging that online deviance is embedded within complex, mutually reinforcing social and emotional processes. For the present study, this is relevant in two ways. First, it contextualizes the emotionally extreme content; particularly the "furious" sentiment category, which was found to reduce rather than increase engagement, within a psychological framework that connects such expression to self-regulatory failure rather than strategic communication. Second, it underscores the importance of distinguishing between functional emotional expression (anger that energizes and mobilizes) and dysfunctional expression (fury that alienates), a distinction that is central to our own findings.

The political weaponization of emotional language online, particularly in the form of trolling with ideological agendas, receives detailed treatment in Al Shamiri (2025), whose critical stylistic study analyzed Arabic-language comments on Al-Jazeera's YouTube coverage of the 2024 Israeli-Iranian military conflict. Using a two-dimensional model that integrated social, psychological, and discourse analysis perspectives, Al Shamiri identified clear patterns in how trolls strategically deployed inflammatory, racist, and nationalist language in response to geopolitically sensitive content. Notably, trolls appeared to time their interventions deliberately, waiting until a critical mass of opposing voices had gathered before entering the discourse with targeted hostile commentary. The study's conclusion, that troll comments systematically reflect ideological convictions rather than spontaneous emotional reactions, aligns with the pragmatic framework adopted in the present study. Just as we argue that emotional posts on Platform X function as performative communicative acts designed to achieve social goals, Al Shamiri's analysis reveals that even apparently chaotic or hateful commentary is purposive and contextually situated. His study also demonstrates the potential universality of critical stylistic tools across different Arabic-language data, reinforcing the broader applicability of discourse-analytic approaches to non-Western digital environments.

At the institutional level, Kargar and Rauchfleisch (2019) bring into focus the degree to which emotionally charged online environments in Iran are not simply user-generated but are also actively shaped by state-aligned actors. Their mixed-methods study, published in *New Media & Society*, combined qualitative interviews with quantitative analysis of Instagram accounts to document coordinated patterns of harassment and hate speech directed at Iranian diaspora journalists, civil society activists, and artists. The researchers found that identified communities systematically disseminated hate speech as a tool of information control, aimed at suppressing dissident voices and manipulating public opinion. The concept of Instagram's "double-edged affordances" that they develop, wherein the same platform features that enable free expression are exploited for coordinated abuse, resonates with the current study's observation that platform algorithms, designed to maximize engagement, may inadvertently reward precisely the kinds of emotionally provocative content that serve polarizing and potentially harmful communicative goals. While our study focuses on user-generated emotional sentiment rather than state-directed harassment, the broader architecture of manipulation that Kargar and Rauchfleisch describe provides critical context for interpreting why certain emotions and topics generate outsized engagement in the Iranian digital environment.

These five bodies of work illuminate a landscape in which emotional language on Persian-language social media is simultaneously a

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reflection of authentic sentiment (Elahimanesh et al., 2025), a navigation strategy shaped by privacy constraints (Koohikamali et al., 2021), a symptom of psychological vulnerability (Meraji Oskuie et al., 2021), a vehicle for ideological performance (Al Shamiri, 2025), and a target of institutional manipulation (Kargar & Rauchfleisch, 2019). The present study builds on these insights by offering a large-scale empirical account of how emotional intensity and polarity shape user engagement, contributing quantitative evidence to a literature that has thus far been predominantly qualitative or survey-based in the Iranian context.

3. Methodology

This study aims to delve deeply into the impact of emotional language on audience engagement within social media platforms, with a specific focus on Platform X. Known for its dynamic user base, Platform X serves as a microcosm of societal sentiment, making it an ideal environment for observing the interplay between emotional expression and public engagement.

During the research period spanning December 2024 to January 2025, four distinct topics were selected for their prominence and the level of discourse they generated. The first topic, referred to as P, concerns a significant diplomatic event; a meeting between the Iranian President and foreign officials. This topic catalyzed extensive discussions, reflecting on the intricate layers of international relations and the divergent perspectives held by various social groups. The polarized nature of these discussions highlighted the sensitive nature of diplomatic interactions and their profound impact on national sentiment.

The second topic, identified as Y, revolves around Yalda Night, a cherished cultural celebration in Iran. This topic exemplifies the intersection of tradition and modernity, with discussions ranging from nostalgic reflections on cultural heritage and the fading symbolism of landmarks like the Alborz Mountains (Dariush et al., 2019) to debates on contemporary interpretations of traditional practices. The polarized responses underscore the evolving nature of cultural identity and the emotional resonance of cultural celebrations within the Iranian community.

The third topic, denoted as F, investigates a provocative comparison broadcast by the *BBC*, juxtaposing Asma Assad, the wife of former Syrian dictator Bashar Assad, with Farah Diba, the wife of the former Iranian monarch. This comparison ignited a unipolar response, predominantly characterized by individual reflections on historical narratives and critiques of media framing. The discourse surrounding this topic offers insights into the collective memory and the sensitivities associated with historical representation.

The final topic, labeled D, explores the perceptions of Iranian

students regarding their university environments. This topic sheds light on the academic climate and the socio-political dynamics within educational institutions. Research by Dariush et al. (2017) suggests that while students from different socioeconomic backgrounds may vary in university type and field of study, their intrinsic educational motivation and career optimism remain relatively stable, pointing to the influence of personal ambition over financial constraints. The unipolar nature of the responses highlights personal experiences and individual grievances, providing a well-structured understanding of the challenges and aspirations of the student body.

3.1. Data collection

The data collection process for this study was conducted with precision and thoroughness, utilizing the API (Application Programming Interface) of Platform X to harvest user-generated content pertinent to the selected topics. In total, approximately 21,000 posts were meticulously gathered, distributed across the topics as follows: around 890 posts for topic P, approximately 5,300 posts for topic D, exactly 10,000 posts for topic Y, and about 4,500 posts for topic F.

The dataset was curated to include Persian-language posts shared within the specified timeframe, capturing essential metadata such as user screen names, post content, favorite counts, repost counts, and the timestamps of post creation. This comprehensive dataset was systematically compiled into a CSV file, ensuring organized storage for subsequent analytical procedures. The breadth and depth of this dataset enable a robust exploration of user sentiment, facilitating a comprehensive analysis of public opinion dynamics and the influence of emotional language on social media engagement.

This methodological approach ensures that the data collected is both extensive and representative, providing a solid foundation for drawing meaningful insights into the intricate relationship between emotional expression and audience engagement in the digital age.

3.2. Data preprocessing

The preprocessing phase was meticulously designed to cleanse and structure the dataset for effective analysis, utilizing a suite of Python tools specifically tailored for handling Persian text. Key libraries included *pandas* for efficient data manipulation, *re* for precise string operations, and *hazm* for text normalization and tokenization. Additionally, the *Stopwordsiso* library was employed to filter out common Persian stopwords.

Initially, the posts were imported from a CSV file, after which a comprehensive preprocessing function was applied to each entry. This function systematically removed URLs, usernames, English words, numeric values, special characters, and underscores, refining the text to be more suitable for analysis. The Persian text was then normalized,

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converted to lowercase, tokenized, and filtered to exclude stopwords, ensuring that the focus remained on the most relevant content. The cleaned dataset was subsequently saved into a new CSV file, prepared for further analytical steps.

To maintain data integrity and enhance the accuracy of the analysis, an additional code snippet was utilized to identify and eliminate duplicate posts from the preprocessed dataset. This process involved loading the data using the pandas library, identifying duplicate entries, and retaining only the first occurrence of each unique post. All duplicate entries, excluding the first instance, were separately stored for reference. Following this rigorous data cleansing procedure, approximately 18,900 unique posts remained, forming a robust foundation for subsequent analyses.

3.3. Data analysis approach

In this study, we took a pragmatic approach. Pragmatic analysis focuses on how meaning is shaped by context, speaker intention, audience interpretation, and the functional use of language in communication. In this study, emotional language on social media is treated not merely as a syntactic or semantic element but as a communicative act designed to provoke engagement. This aligns with pragmatic concerns about how language is used to achieve social goals, such as attracting attention, influencing opinions, or prompting action. By categorizing posts into sentiment types like “Angry”, “Furious”, “Happy”, and “Neutral”, the research effectively captures how users deploy language to signal emotion, and how these signals are interpreted by others through engagement metrics like likes, reposts, and comments.

Moreover, the study implicitly adopts a speech-act perspective—another foundational concept in pragmatics— by examining the perlocutionary effects of emotional expressions. That is, it looks at how utterances (in this case, social media posts) produce observable reactions in audiences. The use of a sentiment analysis model trained in Persian enables the researchers to quantify these pragmatic effects, measuring not just what is said, but what that saying does in a digital context. The fact that angry expressions generate high engagement, while more extreme negativity like furious tones reduce interaction, suggests that audience responses are sensitive to degrees of emotional intensity, a fundamentally pragmatic observation. The study also touches on contextually sensitive variables such as topic and polarity, further reinforcing the idea that the function and impact of language cannot be separated from the social and communicative setting in which it operates.

4. Findings

As we mentioned in the previous section, the Hugging Face Transformers library was utilized for the sentiment analysis, with a

particular emphasis on the pre-trained model "HooshvareLab/bert-fa-base-uncased-sentiment-deepsentipers-multi." This model was selected for its proficiency in handling Persian text and its capability to categorize sentiments into distinct labels: "Furious", "Angry", "Neutral", "Happy" and "Delighted". Each post was processed through this model to determine its sentiment classification, accompanied by probability scores that indicate the likelihood of each sentiment category. This dual-layered analysis, both qualitative (sentiment labels) and quantitative (probability scores), provided a good understanding of the emotional undertones present in the dataset.

The output of the sentiment analysis was systematically integrated into the dataset by adding new columns, each representing a sentiment label and its corresponding probability. This enriched dataset offered a granular view of public sentiment, enabling more detailed and insightful analysis.

To visually represent the distribution of sentiments across the dataset, a 2D bar chart was constructed. This chart depicted the frequency of posts classified under each sentiment category: "Furious", "Angry", "Neutral", "Happy" and "Delighted" (Figure 1). By aggregating the sentiment classifications, the chart provided a clear visual summary of the emotional landscape of the discourse. The frequency counts revealed predominant sentiments and facilitated the identification of trends, such as the prevalence of negative versus positive sentiments.

In addition to the 2D bar chart, a 3D scatter plot was created to provide a better analysis of sentiment scores associated with each post across the four topics: P (Presidential Meeting), Y (Yalda Night), F (Comparison of Asma Assad and Farah Diba), and D (Student Perspectives on Universities) (Figure 2). This advanced visualization offers a detailed depiction of how sentiment data is distributed within each category, allowing for an in-depth exploration of public emotional responses.

The 3D scatter plot effectively illustrates the spread of sentiment scores by incorporating three key dimensions: sentiment category, sentiment intensity, and post weight (Figure 2). The sentiment categories "Furious", "Angry", "Neutral", "Happy" and "Delighted" represent the first dimension, providing a classification of emotional responses. The second dimension, sentiment intensity, is derived from the probability scores assigned to each post, reflecting the strength of the expressed sentiment. The third dimension, post weight, is determined by the level of audience engagement, including the number of likes, reposts, and comments received by each post.

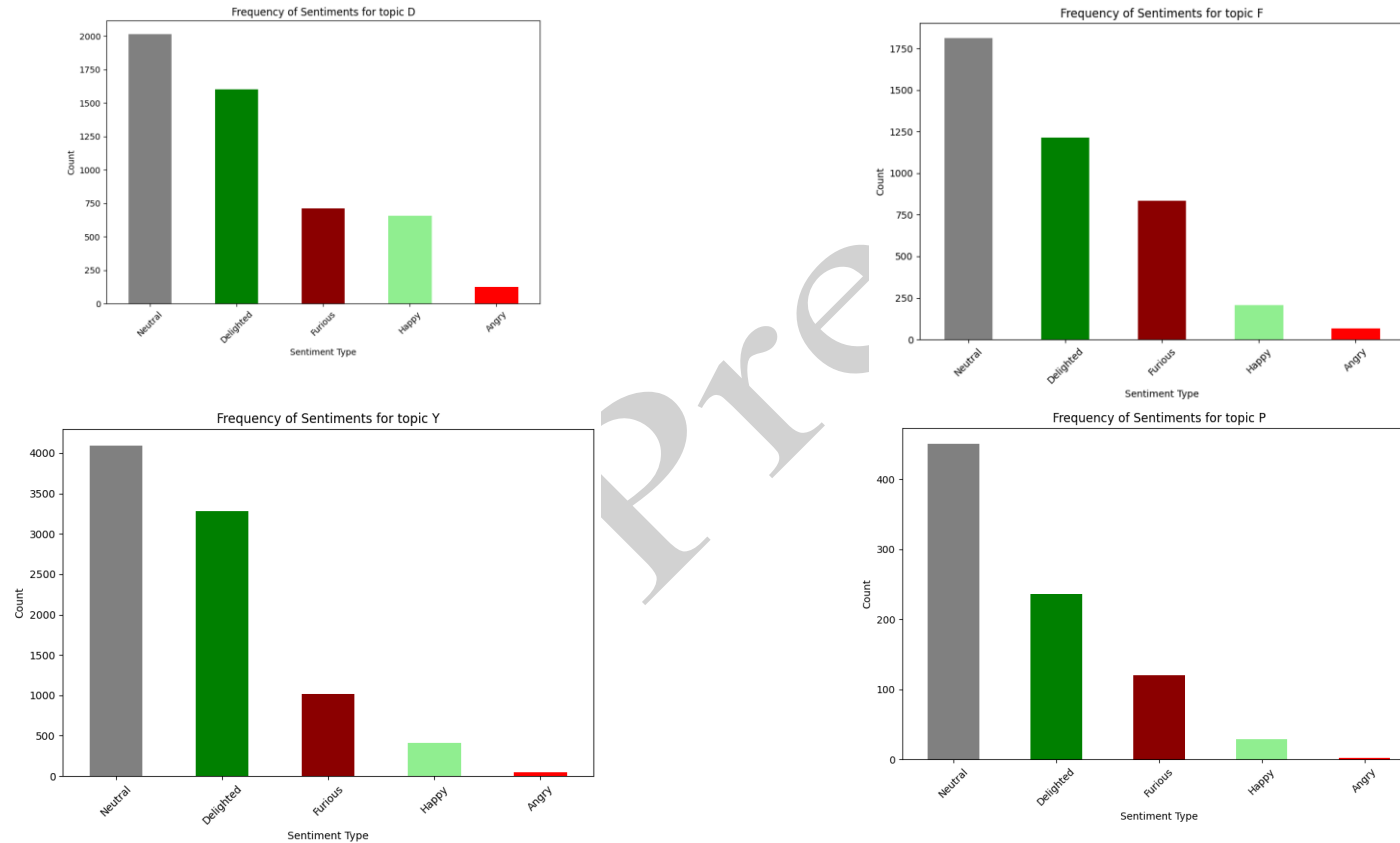
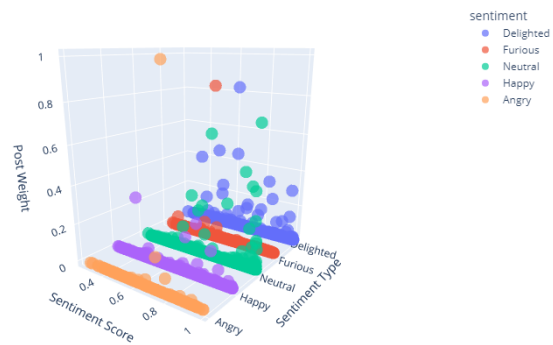
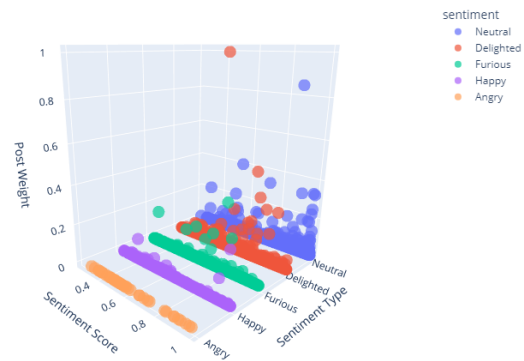


Figure 1. Frequencies and types of sentiments

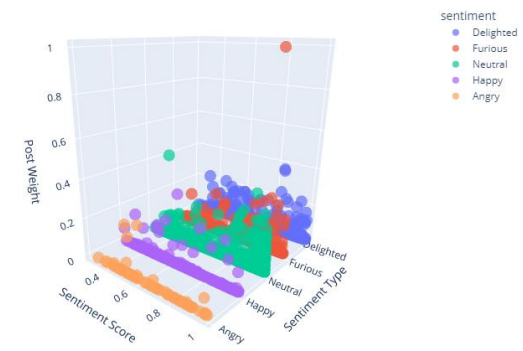
3D Visualization of Sentiment Scores for Each Post of Topic D



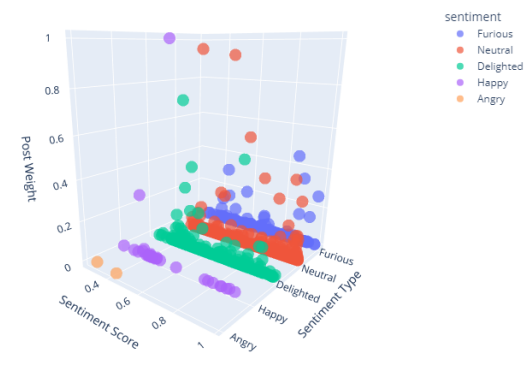
3D Visualization of Sentiment Scores for Each Post of Topic Y



3D Visualization of Sentiment Scores for Each Post of Topic F



3D Visualization of Sentiment Scores for Each Post of Topic P

**Figure 2.** 3D visualizations of sentiments' scores

This three-dimensional visualization allows for a more comprehensive understanding of public sentiment by showing not only the distribution of emotional categories but also the relative impact and reach of each post. The addition of post weight reveals how widely certain sentiments resonate with the audience, highlighting which emotional responses are more influential or widely acknowledged.

It is important to note that the sentiment analysis and its visual representation through the 3D scatter plot are independent of the dual-polarity or single-polarity nature of the topics. While topics Y (Yalda Night) and P (Presidential Meeting) are characterized by dual-polarity, indicating a division in public opinion, and topics F (Comparison of Asma Assad and Farah Diba) and D (Student Perspectives on Universities) are single-polarity, showing more consensus, this aspect does not affect the visualization's structure. The plot is solely focused on illustrating sentiment distribution, intensity, and engagement, regardless of the underlying polarity of the discussions.

The 3D scatter plot provides valuable insights into the emotional landscape of the discourse. It highlights the range of public reactions and offers a comprehensive understanding of how different topics elicit varying emotional responses.

4.1. Statistical analysis

The descriptive analysis of the dataset provides important insights into the relationship between audience engagement and emotional sentiment in posts on Platform X. The dependent variable, Post Weight (PW), represents audience engagement, measured by the reaction level of each post on a scale from 0 to 1. The mean PW score (0.005) and its standard deviation (0.034) indicate that most posts received minimal engagement, with a small number of posts achieving disproportionately high reactions. The extreme skewness (15.809) and kurtosis (352.518) of PW highlight the non-normal distribution of engagement levels, suggesting a highly uneven reaction pattern where viral posts dominate the audience's attention.

Post Sentiment Score (PSS), the independent variable, reflects the maximum emotional intensity across five sentiment categories—Furious, Angry, Neutral, Happy, and Delighted—captured via sentiment analysis. With a mean of 0.741 and a standard deviation of 0.195, PSS demonstrates a moderately high sentiment intensity across the dataset. The slight negative skewness (-0.371) of PSS indicates that posts more frequently exhibit higher emotional scores, signaling the platform's tendency toward emotionally charged content.

Among the individual sentiment categories, Neutral exhibits the highest mean score (0.411), coupled with the largest standard deviation (0.374), suggesting it is the most prevalent and variable sentiment across posts.

Table 1. Descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. deviation	Skewness	Skewness Std. error	Kurtosis	Kurtosis Std. error
PW	18917	0.0000	1.0000	0.0052	0.0337	15.8090	0.0180	352.5180	0.0360
PSS	18917	0.2427	0.9983	0.7412	0.1952	-0.3710	0.0180	-1.1320	0.0360
Furious	18917	0.0001	0.9863	0.1391	0.2476	2.0780	0.0180	3.0960	0.0360
Angry	18917	0.0001	0.9909	0.0222	0.0835	7.7060	0.0180	66.9610	0.0360
Neutral	18917	0.0002	0.9978	0.4113	0.3741	0.3920	0.0180	-1.4900	0.0360
Happy	18917	0.0005	0.9983	0.1214	0.1797	2.9320	0.0180	9.0500	0.0360
Delighted	18917	0.0002	0.9953	0.3059	0.3145	0.7950	0.0180	-0.7760	0.0360

Table 2. Kruskal-Wallis test

Ranks			
	Topic	N	Mean rank
PW	P	837	11975.24
	Y	8840	9074.72
	D	5108	8731.14
	F	4132	10671.20
	Total	18917	
Test statistics ^{a,b}			
PW			
Kruskal-Wallis H		550.961	
df		3	
Asymp. Sig.		.000	

a. Kruskal Wallis test

b. Grouping variable: Topic

The relatively low skewness (0.392) indicates that neutrality is a common emotional tone, resonating with a wide audience. In contrast, the more extreme emotions, such as Furious and Angry, are less frequent but impactful. The mean score for Furious (0.139) and its high skewness (2.078) suggest that this sentiment is expressed in a limited subset of posts, often with strong intensity. Similarly, Angry sentiment, with a mean of .022 and an even higher skewness (7.706), reflects rare but potent expressions of this emotion. These results suggest that negative emotions, while not pervasive, carry significant weight when present.

Positive emotions, including Happy and Delighted, show differing patterns. Happy sentiment has a lower mean (0.121) but exhibits notable kurtosis (9.050), indicating the presence of a few posts with exceptionally high scores that may significantly influence engagement. Delighted sentiment, with a higher mean (0.306) and moderate kurtosis (-0.776), suggests that expressions of joy and satisfaction are relatively more frequent and evenly distributed compared to other emotions.

The statistical properties of the data indicate that certain parameters do not meet the assumptions required for parametric tests, particularly the assumption of normality. For instance, the distribution of PW exhibits extreme skewness (15.809) and kurtosis (352.518), clearly deviating from a normal distribution and highlighting the presence of outliers and asymmetry in the data. Similarly, variables such as Angry and Furious show high levels of skewness (7.706 and 2.078, respectively), suggesting that these parameters are heavily skewed towards lower values, with occasional extreme observations.

On the other hand, parameters like PSS and Neutral display skewness and kurtosis values closer to acceptable ranges (-0.371 and 0.392 for skewness, respectively), which may make them more suitable for parametric tests. However, given the significant heterogeneity and the presence of severely skewed and leptokurtic distributions in several variables, the use of non-parametric tests or data transformations (e.g., logarithmic or rank transformations) is recommended to ensure the robustness of statistical analyses.

The results of the Kruskal-Wallis test in Table 3 indicate a statistically significant difference in PW scores across the four topics (P, Y, D, F), with a test statistic of 550.961 and a p-value of <0.001. This result suggests that the distribution of PW scores is not uniform across the groups. The mean ranks reveal that Topic P has the highest mean rank (11,975.24), while Topics D and Y have similar lower mean ranks (8,731.14 and 9,074.72, respectively), and Topic F has a slightly higher rank (10,671.20). These differences warranted pairwise comparisons to identify specific group disparities.

Table 3. Post Hoc tests

Test	I Topic	J Topic	Mean difference (I-J)	Std. error	Sig.	95% CI lower bound	95% CI upper bound
Tamhane	P	Y	0.0250*	0.0041	0.000	0.0142	0.0358
		D	0.0226*	0.0042	0.000	0.0116	0.0336
		F	0.0130*	0.0042	0.011	0.0020	0.0240
	Y	D	-0.0024	0.0010	0.090	-0.0049	0.0002
		F	-0.0120*	0.0010	0.000	-0.0145	-0.0094
	D	F	-0.0096*	0.0013	0.000	-0.0129	-0.0063
Dunnett T3	P	Y	0.0250*	0.0041	0.000	0.0142	0.0358
		D	0.0226*	0.0042	0.000	0.0116	0.0336
		F	0.0130*	0.0042	0.011	0.0020	0.0240
	Y	D	-0.0024	0.0010	0.090	-0.0049	0.0002
		F	-0.0120*	0.0010	0.000	-0.0145	-0.0094
	D	F	-0.0096*	0.0013	0.000	-0.0129	-0.0063
Games-Howell	P	Y	0.0250*	0.0041	0.000	0.0144	0.0355
		D	0.0226*	0.0042	0.000	0.0119	0.0334
		F	0.0130*	0.0042	0.010	0.0023	0.0238
	Y	D	-0.0024	0.0010	0.073	-0.0049	0.0001
		F	-0.0120*	0.0010	0.000	-0.0144	-0.0095
	D	F	-0.0096*	0.0013	0.000	-0.0129	-0.0063
Dunnett C	P	Y	0.0250*	0.0041	—	0.0144	0.0355
		D	0.0226*	0.0042	—	0.0119	0.0334
		F	0.0130*	0.0042	—	0.0023	0.0238
	Y	D	-0.0024	0.0010	—	-0.0049	0.0001
		F	-0.0120*	0.0010	—	-0.0144	-0.0095
	D	F	-0.0096*	0.0013	—	-0.0129	-0.0063

*Note: The mean difference is significant at the 0.05 level.

The post-hoc Tamhane and Games-Howell tests confirmed significant differences in mean PW scores between several pairs of topics. Topic P demonstrated significantly higher PW scores compared to all other topics (Y, D and F), as indicated by the positive and statistically significant mean differences at $P < 0.05$. Similarly, Topic F showed higher scores than D and Y, with statistically significant differences in both cases. However, no significant difference was observed between Topics Y and D in most pairwise tests, suggesting similarity in their PW distributions.

The Dunnett T3 and C tests further supported these findings, emphasizing consistent significant differences in PW scores between Topics P and the other groups, as well as between Topics F and D or Y. These results confirm the robustness of the observed group differences. Importantly, the significant differences suggest that Topics P and F outperform the others in PW, potentially indicating superior performance or engagement in these groups.

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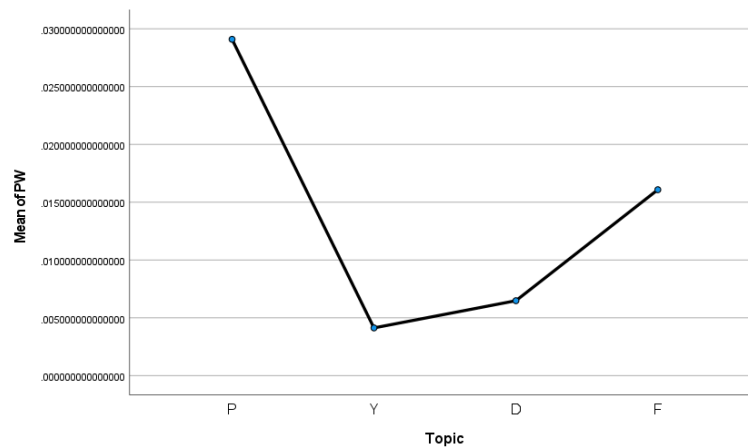


Figure 3. Distinction in PW scores between topics

Overall, the combination of the Kruskal-Wallis test and the post-hoc analyses illustrates clear distinctions in PW scores between topics, highlighting the importance of exploring the underlying factors contributing to these disparities. The consistent results across multiple pairwise comparison methods lend credibility to the findings and their implications for the dataset. To further assess the practical significance of these differences, effect size metrics were calculated. Using the Kruskal-Wallis H-statistic ($H = 550.961$) and the total sample size ($N = 18,917$), the effect size was estimated using two formulas: η^2 and ε^2 . The resulting values ($\eta^2 = 0.029$ and $\varepsilon^2 = 0.029$) indicate a small effect size, suggesting that while the differences in mean ranks among the four topics (P, Y, D and F) are statistically significant, they account for only a small proportion of the variance in audience engagement (PW).

2.4. Generalized linear model

In this study, due to the non-normal distribution of the dependent variable (Post Weight, PW), a Tweedie distribution was employed within a Generalized Linear Model (GLM) framework. The Tweedie model is particularly well-suited for data that are non-negative, continuous, and exhibit a high degree of skewness or overdispersion, as observed in this dataset. Additionally, our data included a significant number of zero-valued observations, making it essential to select a distribution that accommodates such characteristics. The Tweedie distribution, being a compound Poisson-gamma distribution, effectively models datasets with a combination of zeros and continuous positive values, aligning well with the nature of our data. The log link function was selected to establish a multiplicative relationship between predictors and the outcome variable. This approach enables the accommodation of the unique characteristics of the dataset, including the presence of rare, high-impact posts that drive disproportionate engagement.

The analysis incorporated several predictors, including emotional sentiments (Furious, Angry, Neutral, Happy, Delighted), the Post Sentiment Score (PSS), and categorical variables such as polarity and Topic. These variables were integrated into the model to examine their collective and individual effects on audience engagement as measured by PW. Statistical criteria such as the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and model deviance were used to evaluate the model's fit and performance.

Table 4. Model information

Dependent variable		PW			
Probability distribution		Tweedie (1.5)			
Link function		Log			
Case processing summary					
	N	Percent			
Included	18917	100.0			
Excluded	0	0.0			
Total	18917	100.0			
Categorical variable information					
		N	Percent		
	Polarity	1	9240	48.8	
		2	9677	51.2	
		Total	18917	100.0	
	Factor	Topic	P	837	4.4
			Y	8840	46.7
D			5108	27.0	
F			4132	21.8	
	Total	18917	100.0		

Table 5. Continuous variable information

Variable type	Variable	N	Minimum	Maximum	Mean	Std. deviation
Dependent variable	PW	18917	0.0000	1.0000	0.0052	0.0337
Covariate	Furious	18917	0.0001	0.9863	0.1391	0.2476
	Angry	18917	0.0001	0.9909	0.0222	0.0835
	Neutral	18917	0.0002	0.9978	0.4113	0.3741
	Happy	18917	0.0005	0.9983	0.1214	0.1797
	Delighted	18917	0.0002	0.9953	0.3059	0.3145
	PSS	18917	0.2427	0.9983	0.7412	0.1952

Table 6. Goodness of Fit^a

	Value	df	Value/df
Deviance	5997.449	18908	.317
Scaled deviance	33467.589	18908	
Pearson Chi-square	66504.984	18908	3.517
Scaled pearson Chi-square	371118.033	18908	
Log likelihood ^b	30041.402		

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	Value	df	Value/df
Akaike's Information Criterion (AIC)	-60062.804		
Finite sample corrected AIC (AICC)	-60062.792		
Bayesian Information Criterion (BIC)	-59984.325		
Consistent AIC (CAIC)	-59974.325		

Dependent Variable: PW

Model: (Intercept), Polarity, Topic, Furious, Angry, Neutral, Happy, Delighted, PSS

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Table 7. Omnibus test^a

Likelihood ratio Chi-square	df	Sig.
3804.457	8	0.000

Dependent Variable: PW

Model: (Intercept), Polarity, Topic, Furious, Angry, Neutral, Happy, Delighted, PSS

a. Compares the fitted model against the intercept-only model.

Table 8. Tests of model effects

Source	Type III		
	Wald Chi-square	df	Sig.
(Intercept)	.a	.	.
Polarity	.a	.	.
Topic	3401.485	2	0.000
Furious	.a	.	.
Angry	.a	.	.
Neutral	.a	.	.
Happy	.a	.	.
Delighted	.a	.	.
PSS	3.756	1	0.053

Dependent Variable: PW

Model: (Intercept), Polarity, Topic, Furious, Angry, Neutral, Happy, Delighted, PSS

a. Unable to compute due to numerical problems

b.

Table 9. Parameter estimates

Parameter	B	Std. Error	95% Wald confidence interval		Hypothesis test		
			Lower	Upper	Wald Chi-square	df	Sig.
(Intercept)	-6.133	0.0579	-6.246	-6.019	11228.696	1	0.000
[Polarity=1]	1.382	0.0291	1.325	1.439	2257.897	1	0.000
[Polarity=2]	0 ^a	.	.	.	.	.	.
[Topic=P]	2.042	0.0440	1.956	2.129	2158.190	1	0.000
[Topic=Y]	0 ^a	.	.	.	.	.	.
[Topic=D]	-1.172	0.0329	-1.237	-1.107	1266.269	1	0.000
[Topic=F]	0 ^a	.	.	.	.	.	.

Parameter	B	Std. Error	95% Wald confidence interval		Hypothesis test		
			Lower	Upper	Wald Chi-square	df	Sig.
Furious	-0.129	0.0580	-.242	-.015	4.928	1	0.026
Angry	1.037	0.1220	0.797	1.276	72.168	1	0.000
Neutral	0.138	0.0413	0.057	0.219	11.170	1	0.001
Happy	0.159	0.0799	0.003	0.316	3.983	1	0.046
Delighted	0 ^a	.	.	.	.	.	.
PSS	0.131	0.0677	-0.001	0.264	3.756	1	0.053
(Scale)	0.179 ^b	0.0013	0.177	0.182			

Dependent Variable: PW

Model: (Intercept), Polarity, Topic, Furious, Angry, Neutral, Happy, Delighted, PSS

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

The analysis presented in this study evaluates the relationship between emotional language and audience engagement on social media, addressing the research question: Does the use of emotional language and heightened emotional intensity in messages increase audience feedback? Employing a Generalized Linear Model (GLM) with a Tweedie distribution, the study rigorously examined the interplay of various emotional and categorical factors influencing the dependent variable, Post Weight (PW), which measures audience engagement. Model diagnostics affirm the validity and robustness of the approach. The omnibus likelihood ratio test ($\chi^2 = 3804.457$, $P < 0.001$) indicates that the predictors significantly improve the model over the null hypothesis. Additionally, criteria such as the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) demonstrate the model's efficiency in balancing goodness of fit with model complexity.

4.3. Emotional intensity and sentiment analysis

Sentiment-related predictors, including Furious, Angry, Neutral, Happy, and Delighted, were found to exert varied effects on audience engagement. Posts with Angry sentiment exhibited the strongest positive impact on PW ($B = 1.037$, $P < 0.001$), suggesting that expressions of anger resonate powerfully with audiences, possibly due to their provocative nature and ability to elicit strong reactions. Similarly, Happy sentiments contributed positively to engagement ($B = 0.159$, $P = 0.046$), highlighting the role of positive emotions in fostering connection and resonance with audiences.

Neutral sentiments, while less intense, also showed a modest but significant positive influence ($B = 0.138$, $P = 0.001$). This suggests that balanced or less emotionally charged content still holds relevance in engaging audiences, likely appealing to a broader spectrum of users. In contrast, Furious sentiments negatively impacted engagement ($B = -$

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0.129, $P = 0.026$), underscoring the potential backlash or alienation associated with excessively intense or negative expressions.

The Post Sentiment Score (PSS), a composite measure of emotional intensity, approached significance ($B = 0.131$, $P = 0.053$), suggesting a trend where heightened emotional intensity correlates with increased engagement. This finding underscores the broader role of emotional expression in shaping audience behavior, though its significance may vary depending on contextual factors.

4.4. Categorical variables: Polarity and topic

The categorical variables Polarity and Topic emerged as critical determinants of engagement. Posts associated with polarity group 1 elicited significantly higher engagement ($B = 1.382$, $P < 0.001$) compared to group 2, indicating that more polarized discussions attract greater audience interest. This finding aligns with existing research suggesting that divisive or controversial content often garners heightened attention.

Among topics, significant disparities in PW were observed. Posts about the Presidential Meeting (Topic P) achieved the highest engagement ($B = 2.042$, $P < 0.001$), reflecting the societal significance and emotional resonance of political discourse. Conversely, posts related to student perceptions (Topic D) demonstrated lower engagement ($B = -1.172$, $P < 0.001$), possibly due to their narrower appeal or less provocative nature.

The analysis reveals that while Neutral sentiment dominates in prevalence, extreme emotions like Angry and Happy have disproportionate effects on engagement, demonstrating the audience's preference for emotionally charged content. The nuanced differences between emotional categories highlight the importance of tailoring emotional tone to the context and audience.

Furthermore, the significant role of polarity underscores the influence of divisiveness in driving engagement. Topics that polarize or evoke strong reactions—whether through political discourse or cultural debates—tend to outperform others, reaffirming the interplay between emotional intensity and societal relevance in shaping audience behavior.

Our findings provide compelling evidence that the use of emotional language and heightened emotional intensity in messages significantly influences audience feedback. Posts exhibiting higher emotional intensity, particularly those with positive (Happy) or provocative (Angry) tones, tend to attract greater engagement. Similarly, content that aligns with polarizing or societally significant themes amplifies this effect, suggesting a synergistic relationship between emotional expression and contextual relevance.

5. Discussion

This study confirms that emotional language plays a significant role in shaping user engagement on Persian-language social media. The overarching pattern that emerges from the data is that emotionally intense posts, particularly those that express anger or happiness, generate higher levels of audience response. Posts labeled as “Angry” had the strongest positive effect on Post Weight (PW), while “Happy” posts also showed a statistically significant positive association. In contrast, “Furious” posts had a negative effect on engagement, suggesting that there is a threshold beyond which emotional intensity becomes counterproductive. These findings underscore the importance of both the type and degree of emotion in determining audience behavior on digital platforms.

This pattern is consistent with prior studies on emotional virality. Berger and Milkman (2012) argued that high-arousal emotions, such as anger and awe, enhance the likelihood of online sharing. Likewise, Brady et al. (2017) found that moral-emotional language was a key factor in the diffusion of content in social networks. Our study supports these conclusions in the Persian-language context, confirming that anger is a particularly potent emotion in digital engagement. However, we also contribute new insights by distinguishing between different shades of negative emotion—demonstrating that anger spurs interaction, while fury may repel it. This gradient highlights the utility of a pragmatic framework, which considers not just emotional valence but communicative function and social context.

Another key finding pertains to the influence of polarized discourse. Posts falling under more divisive themes, particularly the diplomatic topic (P), achieved the highest engagement levels across the board. This reinforces observations made by Vosoughi et al. (2018) and Bakshy et al. (2015) that polarization and ideological congruence intensify user interest. Polarity was found to be a significant predictor in our Generalized Linear Model, suggesting that it is not merely the emotional tone, but also the presence of societal fault lines and controversy, that drives attention. This relationship between emotionality and divisiveness has broad implications for public discourse, as it suggests that the design of engagement-maximizing platforms may inadvertently prioritize content that deepens societal rifts.

Our study also confirms that topic selection matters. Political posts were far more engaging than those about cultural celebrations or educational complaints, indicating that content relevance, perceived importance, and timeliness play major roles in online behavior. However, even within the seemingly apolitical topics such as Yalda Night (Y), discussions became polarized, revealing that cultural identity itself can be contested terrain. This suggests that emotional intensity need not always be tied to political controversy—it can also emerge from debates over tradition, memory, and national symbols.

Perhaps the most practically relevant finding is the observation that neutral posts, those lacking clear positive or negative emotional content, still garnered substantial engagement. While less dramatic than their emotional counterparts, these posts represent a middle ground that can appeal to broader audiences without contributing to sensationalism.

Furthermore, our results point toward the algorithmic amplification of certain emotions. Given that angry or happy posts are more likely to be liked, reposted, or commented upon, it is likely that platform algorithms trained on engagement metrics (see for example Sabbar & Khiyaban, 2023) will continue to prioritize such content. This raises important ethical concerns about the feedback loop between platform design and public discourse. Winters (2019) and others have warned about this “optimization trap,” where the pursuit of clicks and views undermines nuance and deliberation. Our findings underscore the need for regulatory and design interventions that prioritize discourse quality over engagement volume.

The implications for media literacy are clear. Given that emotional language can powerfully influence behavior, and often at the expense of accuracy, there is a growing need to educate users on how to recognize emotional manipulation in digital environments. As suggested by Hobbs (2020) and Livingstone (2018), critical thinking and emotional awareness must be integral components of civic education, particularly in contexts like Iran where information ecosystems are already strained by censorship and propaganda. The digital resilience of Iranian users, who bypass restrictions through VPNs to engage in civic discourse, illustrates both the power and vulnerability of online platforms. Emotional language can mobilize, but it can also polarize and mislead.

While this study focuses on Persian-language discourse, the broader patterns it uncovers are likely applicable to other sociolinguistic contexts. Emotions are universal in human communication, but their expression and reception are culturally mediated. The pragmatic approach adopted here demonstrates the value of considering not just *what* people say, but *why* they say it and *how* others interpret it within specific cultural and political contexts.

6. Conclusion

This study provides clear evidence that emotional language, particularly in the form of anger and happiness, significantly increases user engagement on social media. Using sentiment analysis and a Generalized Linear Model applied to nearly 19,000 Persian-language posts across four topical areas, we found that emotionally expressive content, especially when aligned with divisive or politically salient themes, amplifies audience interaction. In contrast, overly extreme negativity, such as “furious” sentiment, reduces engagement, suggesting limits to the effectiveness of emotionally charged rhetoric.

Posts with neutral tones also played a significant role, appealing to wider audiences without contributing to polarization.

Our findings emphasize the critical link between emotional expression, content polarization, and platform dynamics. This relationship has profound implications for digital discourse, platform governance, and civic communication. Social media algorithms that reward engagement may inadvertently prioritize the most emotionally provocative posts, thereby distorting public conversation and contributing to misinformation or ideological entrenchment.

According to Dastyar et al. (2023), integrating virtual education into environmental and civic education can restore mental and semantic depth in users' understanding of the world around them, enabling more critical, informed, and responsible engagement in the digital space. Furthermore, media literacy encourages users to question the intent behind sensational posts, recognize biases, and seek out diverse perspectives, fostering a more informed and balanced engagement with digital content (Potter, 2018; Nosrati et al., 2023). We believe that future research will further show the importance of critical media literacy for people who like to be connected on social media.

Limitations. Limitations of the study include its focus on a single platform (X) and a specific linguistic and cultural context (Persian-language posts). While the results are compelling, they may not generalize to all social media environments or user demographics. Additionally, although the sentiment analysis tool used is among the most advanced for Persian, no automated system can fully capture the pragmatic richness and contextual subtleties of human communication..

Conflict of interest

The author declared no conflicts of interest.

Ethical considerations

The author has completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc. This article was not authored by artificial intelligence.

Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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