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Public Perceptions and Emotional Expressions in the Controversy over AI-Generated Art: A Computational Communication Study of Video Comments on Bilibili

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Abstract

As generative artificial intelligence (AI) enters visual creation, controversies have expanded from image-generation capabilities to artistic value, creative labor, and authorship. This study analyzes 21,902 valid comments from 25 Bilibili videos using computational communication methods. TF-IDF and non-negative matrix factorization (NMF) identify six themes: art and human creativity; quality and identification of AI-generated content; art learning and technology use; artists' professional circumstances; model training and copyright law; and artists' creative emotions and perseverance. A manually coded sample of 498 comments shows that neutral and negative expressions predominate, while mixed positions combine recognition of efficiency with concerns about creators' rights and working conditions. The findings suggest that controversy is not reducible to support for or opposition to AI. Instead, commenters negotiate creative agency, labor value, artistic legitimacy, and rights within an evolving order of AI-mediated production.

Keywords

AI-Generated Art; Computational Communication; Bilibili Comments; Creative Agency; Emotional Expressions

1. Introduction

Social media have become spaces where users interpret technological change through their interests, values, and experiences. The rapid spread of generative AI image tools has intensified debate over their application in design, animation, and cultural production. On Bilibili, discussions extend beyond whether AI can generate convincing images to questions about creativity, artistic legitimacy, labor, and rights. These debates make video comment sections a useful site for examining how

technological meanings are publicly negotiated.

AI-generated art also complicates established relations among creators, tools, and audiences. Users express intentions through prompts, select or revise outputs, and circulate images, while models, training data, and platforms shape production and visibility. This study therefore asks: RQ 1, What major issues structure Bilibili users' controversies over AI-generated art, and how do discussions extend from technical functions to the order of artistic production? RQ 2, How do emotional expressions vary across issues, and what complexities characterize users'positions? RQ 3, How do these discussions negotiate creative agency, labor value, artistic legitimacy, and rights in human–AI production relations ?

2. Literature Review

Media technologies shape not only communication channels but also cultural production and social relations. McLuhan's (1964) media perspective and research on algorithmic culture and platformization (Striphas, 2015; Nieborg and Poell, 2018) suggest that cultural outputs are increasingly formed through interconnected infrastructures, data, recommendation systems, users, and commercial logics. In AI-mediated art, the production environment encompasses models, computing resources, prompt design, generation, selection, editing, and distribution. Platforms also influence which works become visible and how they are evaluated.

A second strand concerns the tension between production efficiency and artistic value. AI may lower technical barriers and accelerate image production, but generative capacity alone does not establish artistic creativity or legitimacy (Hertzmann, 2018; Mazzone and Elgammal, 2019). Debates over mass generation and stylistic imitation recall critiques of standardized cultural production, while scholarship on digital and creative labor shows that technology can redistribute rather than eliminate work (Terranova, 2000; Banks, 2010). Questions about training data and copyright further complicate the attribution of authorship and responsibility.

Creative agency is consequently better understood relationally than as the exclusive property of a single actor. AI outputs depend on models and data, while users contribute intentions, prompts, selection, and refinement; developers, data contributors, and platforms also shape the production chain. Research on AI art emphasizes that the central issue is not merely machine capability but how human intentions and judgments enter production (Cetinic and She, 2022; Zylinska, 2020). This study connects these debates by examining how users' topic choices and emotional expressions articulate changing boundaries of artistic production.

3. Research Design

3.1. Sample and Data

The study examines publicly accessible comments on 25 Bilibili videos about

generative AI art. Videos were retrieved using AI painting, artificial intelligence painting, and generative AI art, then screened for publication date, views, comments, likes, favorites, and relevance. Purposive sampling excluded incidental mentions; maximum-variation sampling included technical introductions, artwork showcases, tutorials, news commentary, controversy discussions, and experience sharing.

Python scripts collected 30,499 comments published between February 16, 2023, and August 31, 2026. Preprocessing removed duplicates, empty entries, advertisements, garbled text, meaningless symbols, and clearly off-topic comments, and standardized formatting. The final corpus contained 21,902 valid comments.

3.2. Text and Topic Analysis

Jieba was used for Chinese segmentation. A corpus-specific AI-art lexicon was added, and stop words, meaningless symbols, and low-value terms were removed. High-frequency terms were used to characterize prominent semantic concerns. Topic modeling combined TF-IDF with non-negative matrix factorization (NMF). Models with K=3–7 were compared in terms of within-topic semantic concentration, topic overlap, and interpretability. K=6 was selected because its weighted terms formed interpretable, comparatively distinct issue clusters.

3.3. Sentiment Coding

The six NMF topics served as strata. To enable comparison across topics, 83 comments were sampled from each stratum, yielding 498 comments; this equal allocation intentionally differs from proportional sampling. Comments were manually classified as positive, negative, neutral, or mixed. Mixed sentiment required meaningful positive and negative evaluations within the same comment. The results describe this coded sample; because of disproportionate allocation, aggregate percentages should not be treated as population-weighted estimates of all 21,902 comments.

4. Findings

4.1. Issue Structure and the Expansion of Controversy

TF-IDF and NMF identify six issue clusters, spanning artistic value, content quality, learning and use, occupational impacts, copyright, and individual creative experience (Table 1). Together, they show that AI-generated art is discussed not as a single technical innovation but as an issue at the intersection of technology, art, labor, and social relations.

Table 1. Structure and Distribution of the Six Comment Topics.

Topic	Number of Comments	Percentage (%)	Terms
Art and Human Creativity	7,194	32.9	Humanity; Replacement; Art; Creativity; Tools; Industry
Quality and Identification of AI-Generated Content	5,743	26.2	Generation; Identification; Resistance; Aesthetic Appeal; One-Glance Images

Topic	Number of Comments	Percentage (%)	Terms
Art Learning and Technology Use	2,688	12.3	Painting; Learning; Process; Technology; Software; Significance
Artists' Professional Circumstances	2,516	11.5	Artists; Infringement; Copyright; Unemployment; Style; Elimination
Model Training and Copyright Law	2,047	9.3	Models; Training; Copyright; Law; Data; Imitation
Artists' Creative Emotions and Perseverance	1,714	7.8	Drawing; Liking; Passion; Hobby; Perseverance; Continuation

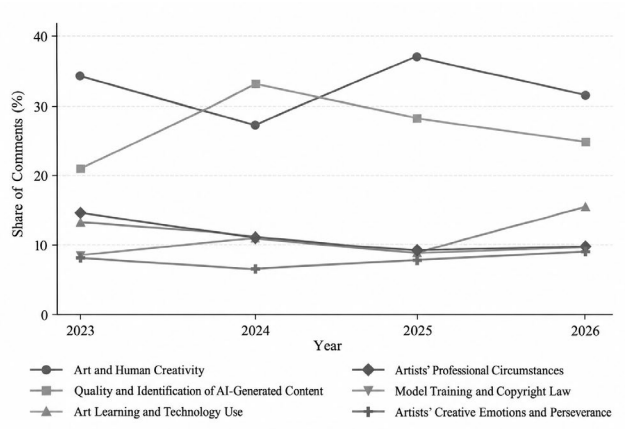


Figure 1. Changes in the Proportion of Comments Across the Six Topics, 2023–2026

The topic distribution indicates that debate is led by art and human creativity (32.9%) and the quality and identification of AI-generated content (26.2%). Occupational circumstances, copyright, and personal creative experience add material and normative dimensions. Across the observed period, discussion moves between technical performance and broader consequences, although the topics remain interconnected rather than forming a strictly linear sequence. Technical terms such as generation, technology, and tools coexist with art, creativity, industry," and replacement, revealing an expansion from what AI can produce to how production should be organized.

The association of humanity, artists, creativity, and replacement with generation, technology, and works points to a recurring question: when AI enters tasks previously performed by artists, how should creative agency be attributed? The process is no longer a unified act by an individual creator. Prompting, generation, selection, modification, and publication distribute functions across users and technical systems. Yet generative capacity does not automatically establish human-like intention or value judgment (Boden, 2004). AI art thus raises a relational question about the roles and contributions of human participants, models, data, and platforms, rather than only whether AI itself can be called an artist.

These discussions also expose competing production standards. Efficiency and low barriers to entry may be valued by users, while professional training, sustained labor, originality, and accountability remain important criteria. Recognition of AI's practical utility can therefore coexist with concerns about occupational displacement, labor devaluation, and the legitimacy of training practices. The controversy reflects negotiation over the order of artistic production, not merely aesthetic preference.

4.2. Emotional Structure and Issue Differences

4.2.1. Overall Distribution

Among the 498 manually coded comments, neutral expressions accounted for 49.26%, negative expressions 38.29%, mixed expressions 6.88%, and positive expressions 5.57%. Neutral comments largely described technologies, generation processes, and usage scenarios. Negative comments expressed anxiety, resistance, concern, or skepticism, often using terms such as unemployment, replacing artists, infringement, and plagiarism. Positive comments emphasized convenience, efficiency, productivity, lower barriers, and technological progress. Mixed comments acknowledged benefits while questioning social consequences.The four sentiment categories are presented in Table 2.

Table 2. Representative Comment Examples for the Four Sentiment Categories

Sentiment Category	Core Expressive Tendencies	Representative Comment Examples
Positive	Efficiency, convenience, and technological progress	"AI will definitely help human artists push beyond their limits. Artists must learn to use AI to enhance their creativity."
Negative	Professional concerns, copyright challenges, and rejection of artistic value	"AI has already gone seriously off track. Allowing this technology to encroach upon art is a major taboo. I am concerned about what will happen next."
Neutral	Descriptive statements and relatively restrained technological discussion	"If AI-generated work can meet a company's needs, there is indeed no need to spend extra money hiring people to do the job."
Mixed	Recognition of efficiency alongside concerns about creators' rights	"AI-generated art is highly beneficial to capital, but artworks created this way lose their artistic value."

4.2.2. Emotional Differences Across Topics

Neutral and negative expressions predominated in all six topics, suggesting that concerns were not restricted to one issue. Negative sentiment was highest in "Artists' Professional Circumstances" (46.99%), where comments addressed replacement, livelihood pressures, and labor value. It was also high in "Quality and Identification of AI-Generated Content" (45.78%), reflecting doubts about output quality and detectable AI traces. Neutral sentiment was relatively prevalent in "Art and Human Creativity" (61.45%) and "Model Training and Copyright Law" (57.83%), where users often discussed artistic value, technical mechanisms, and rights.

Mixed sentiment clustered around creator-related issues: "Artists' Creative

Emotions and Perseverance" and "Artists' Professional Circumstances" together accounted for 53.85% of all mixed comments. By contrast, mixed sentiment represented 1.20% within "Model Training and Copyright Law." These patterns suggest that creator-facing debates more often combine practical acceptance with concern, while copyright discussions tend to elicit more clearly articulated positions. Percentages should be interpreted in light of the equal-allocation sample.

4.2.3. Mixed Sentiment as Conditional Acceptance

Mixed sentiment is not simply the coexistence of positive and negative words. It captures simultaneous evaluations of distinct dimensions. Users may welcome AI for improving efficiency or lowering entry barriers while rejecting the artistic value of some outputs, questioning data provenance, or worrying about artists' livelihoods. Instrumental usefulness and artistic legitimacy are related but non-equivalent standards.

Evaluations may also change across production stages. Approval of generative tools does not entail approval of training-data practices, style imitation, or rights attribution; nor does recognition of efficiency imply acceptance of occupational displacement. Commenters distinguish among actors and processes when assigning responsibility and legitimacy. In this sense, mixed expressions reveal plural judgments rather than simply inconsistent attitudes.

Online users participate in public meaning-making through interaction and reinterpretation (Liu, 2017). In Bilibili discussions, they negotiate what counts as creation, originality, art, and labor, positioning AI-generated art within contested social and institutional boundaries. Mixed sentiment thus offers evidence of conditional acceptance: technical innovation may be welcomed when its consequences for creators, rights, and artistic value are considered acceptable.

5. Conclusion and Discussion

Analysis of 21,902 comments across 25 Bilibili videos identifies six major issues and shows that controversy extends from generation performance to the organization and legitimacy of artistic production. Neutral and negative expressions dominate the manually coded sample, but users' positions cannot be reduced to technological support or rejection. Mixed sentiment is especially revealing: efficiency and accessibility may be valued alongside concerns about professional precarity, labor value, copyright, and artistic legitimacy.

The findings suggest that AI-mediated art production is organized through relations among models, data contributors, developers, users, platforms, and audiences. Platforms are not neutral infrastructures: recommendation, data practices, and commercial mechanisms shape cultural visibility and value (van Dijck et al., 2018). AI systems also depend on wider networks of resources, labor, and institutional power (Crawford, 2021). Artistic evaluation should therefore consider not only final

images but also creative intention, human intervention, data provenance, labor contributions, and responsibility.

This study is limited by its purposive sample of 25 videos and its focus on Bilibili comments; its findings should not be generalized directly to society-wide public opinion. Equal allocation in sentiment coding also means that the aggregate sentiment distribution is descriptive of the coded sample rather than a weighted estimate of the full corpus. Future research could compare platforms, validate coding reliability, and examine how controversy changes across specific events. AI-generated art does not necessarily signal the end of human creativity; it foregrounds the need to renegotiate agency, labor, value, rights, and public responsibility as intelligent technologies enter cultural production.

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