

Interactive Ritual Chain in Esports Live Streaming: A Case Study of Bullet Screen Interaction During the 2025 Fearless Contract Toronto Masters

Zixuan Qiu

*School of Culture and Creativity, Beijing Normal-Hong Kong Baptist University, Zhuhai, China
1297307542@qq.com*

Abstract. This study uses Collins' Interactive Ritual Chain Theory as a framework, combined with digital media research, audiovisual analysis and cross-cultural communication theory, to analyze the interactive ritual phenomenon of bullet comments in the 2025 Toronto Masters live broadcast of "Fearless Contract". This study collects Chinese and English bullet screen data from Bilibili and Twitch, and uses text analysis, in-depth interviews, symbol analysis and participatory observation to explore how the live broadcast of the event constructs a virtual carnival space for global players, how players complete collective emotional accumulation and release through bullet screen, and the influence of platform algorithm and cross-cultural differences on ritual solidarity. The study reveals that the bullet-screen interaction in esports live streaming not only inherits the four core elements of the traditional interactive ritual chain theory, but also expands the boundaries of "physical presence" within the theory. It further demonstrates new interactive characteristics such as "mediatic mediation," "cross-culturality," and "spatiotemporal extension," offering a fresh research perspective for understanding collective carnival rituals in the digital age.

Keywords: Interactive Ritual Chain Theory, Bullet Screen Ritual, Esports Live Broadcast, Digital Age

1. Introduction

Esports live streaming has transformed into a collective ritual space, boosted by digital innovation and globalization. This shift is evidenced by a global audience exceeding 500 million in 2024 and significant viewership for events like the *Fearless Contract* World Championship. The concept of "danmaku," which involves real-time user-generated comments, enhances viewer interaction and emotional connection, contributing to a sense of "virtual co-presence."

The "Fearless Contract" features a ritualistic design centered on its "skill-gun" dual-core system, which effectively balances strategy and operation. Its high-visual effects, like corrosion outlines, translate abstract mechanics into recognizable symbols, and limited-time energy bombs create memorable moments, as evidenced by 4,872 endgame matches in 2023. This design turned the 2024 Incheon Championship into an "emotional container," drawing peak viewership of 28 million and 5 billion topic views on Weibo when China's EDG team won. Its audiovisual narrative design not only

aligns with the logic of constructing immersive esports live experiences but also provides a symbolic foundation for cross-space emotional resonance [1]. The 2025 Toronto Masters advanced this ceremonial aspect, integrating elements like regional identities, bullet-screen engagement, and cross-cultural exchanges. Overall, esports has transcended its subcultural roots to become a multifaceted ceremonial system that reflects and shapes modern socio-cultural communications.

Previous studies have highlighted the social functions of bullet comments. Zhou Baohua identified their social role, while Pan Shuya and Zhang Yuqi emphasized the identity formation mechanisms within online fan communities [2,3]. In recent years, scholars have systematically applied the interactive ritual chain theory to live-streaming bullet comment research, demonstrating its effectiveness in analyzing virtual interactions [4,5]. This approach has laid the groundwork for understanding bullet comments' social functions and community identity. However, the existing researches are limited by a focus on single cultural contexts, insufficient exploration of cross-cultural interactions, and a lack of detailed frameworks for analyzing the complex ritual interactions influenced by technological factors.

Therefore, this study investigates the 2025 Toronto Masters of the Fearless Contract, a significant esports event, using interactive ritual chain theory. It aims to explore how various interaction rituals coexist to enhance the ritual experience and maintain its relevance. The research also examines the role of bullet-screen interaction in amplifying traditional ritual elements through technology, revealing new digital characteristics. By analyzing live broadcasts and audience interactions on streaming platforms within a four-dimensional spatial framework, the study provides insights into the operational mechanisms of digital interactive rituals shaped by cultural diversity and technological dynamics.

2. Methodology

2.1. Theoretical framework: interaction ritual chain and its extension

This study employs Randall Collins' Interaction Ritual Chains theory as its core analytical framework. The theory posits that the foundation of social structure consists of a chain of countless micro-level, face-to-face interaction rituals [6]. A successful interaction ritual (IR) requires four initial conditions: two or more people are physically present together, barrier restrict outsiders, participants focus their attention on the same object, and they share common emotional experiences.

Collins' theoretical framework traditionally builds upon the physical concept of "physical presence." However, this study examines and expands it within the digital context of esports live streaming. We argue that live streaming technology, bullet-screen systems, and platform algorithms collectively mediate and reconfigure the four foundational conditions of interactive reality (IR). For instance, "group congregation" is replaced by "virtual presence", while "shared focus" is shaped by game visuals, commentary, and algorithmically generated bullet screens [7]. The following analysis demonstrates, using the *Fearless Contract* tournament as a case study, how bullet-screen interactions not only fulfill traditional IR conditions but also generates new digital-era characteristics and ritual outcomes.

Furthermore, to gain deeper insights into the platform's mediating role, this study draws upon Nick Couldry's Media Rituals Theory. The theory posits that media organizations construct themselves as centers of social meaning through their technological frameworks and organizational practices. In this case, live streaming platforms not only regulate ritual participation through features like algorithmic recommendations and highlight bullet comments, but also amplify the symbolic value of "participation within the live stream." Additionally, the analysis of differences in Chinese

and English bullet comments incorporates perspectives from Intercultural Communication Theory regarding high-and low-context cultures, decoding the underlying logic of symbolic usage and emotional expression among viewers from diverse cultural backgrounds.

2.2. Research methods

This study employs participatory observation and in-depth interviews as its core methods, combined with text analysis and multimodal analysis. Through the author's immersive experience and diversified data verification, it reveals the generation mechanism and contemporary characteristics of the digital bullet-screen interaction ritual in esports live streaming.

2.2.1. Participatory observation

Veteran player-and-spectator status allowed observation of the Fearless Contract from a dual perspective: an active personal account was used to watch the matches while the natural interactions of the ceremony remained undisturbed.

Implementation followed Collins's Interactive Ritual Chain Theory: five most representative moments through real-time participation, observation of bullet comments across dual platforms, and analysis of official match replays. The selection criteria are as follows: First, these moments represent recognized turning points or climactic moments in the tournament (such as decisive kills, comebacks, and championship victories), naturally becoming focal points of collective attention. Second, all five moments exhibit significantly higher bullet comment density, aligning with the data characteristics of "interactive ritual outbursts." Finally, they span different phases including pre-game preparation, in-game events, post-game analysis, and various tournament formats like exhibition matches, regular matches, and finals, comprehensively reflecting the entire ritual construction process. These five moments not only demonstrate the instantaneous interactive characteristics unique to esports live streams but also fully document the ritual's progression from pre-game buildup, through critical moments and championship climax, to post-game resolution. They represent a hybrid "interactive ritual eruption period" containing typical conflicts and consensus. The five moments are: the exhibition-MVP's face-cake smash (1:30 clip, 110 views on Bilibili, 395 on Twitch), PRX unveiling their signature move debut (45 seconds, 35 Bilibili views, 79 Twitch views), D4v41's critical triple kill (1:30, 105 views on Bilibili, 145 on Twitch), the map-five comeback on match point (3 points, 236 on Bilibili, 365 on Twitch), and the Championship point followed by trophy victory (3 points, 1,210 videos on Bilibili, 1,188 on Twitch). In addition, the four dimensions of game space (completely virtual), event space (completely real), two-dimensional space of live broadcast and physical space of audience were confirmed, and the corresponding ritual observation was carried out and organized into observation logs.

2.2.2. Live stream chat transcript analysis

To examine the five "interactive ritual eruption phases" mentioned above, this study utilized platform backend data interfaces and web crawling technology to collect all bullet screen data from Bilibili and Twitch live streams during the event period (spanning 45 seconds before the trigger point to 3 minutes after the event). Using Weicloud/Python, we extracted and analyzed the bullet screen content to quantify its performance during these phases, thereby providing data-driven support for the interview conclusions.

2.2.3. Analysis of multimodal audiovisual symbols in live broadcast rooms

This study examines the reinforcement mechanisms of ritual dynamics in participatory observation. By identifying 'collective carnival ritual moments' through participatory observation, we extract corresponding audiovisual symbols at specific time points and analyze their characteristics for correlation with bullet comments. The analytical framework integrates the research paradigm of visual narrative in esports live streaming with the fundamental logic of multimodal symbol interaction, revealing the synergistic effects between audiovisual elements and bullet comment texts [1].

2.2.4. In-depth interview research method

This qualitative study employed one-on-one in-depth interviews, utilizing purposive and convenience sampling. Eight participants (6 males and 2 females) from a gaming community near the author were selected for interviews. These individuals had watched live streams of *The Fearless Contract* on at least two platforms within the past three months and had sent bullet comments. The participants, representing diverse backgrounds including students and esports players, underwent 30-45 minute interviews focusing on their perspectives on the interactive ritual of esports bullet comments. The interview content was systematically organized and analyzed in Table 1 to support subsequent research.

Table 1. Interviewer coding

ID	Rank	Viewing Years	Cross-platform Usage	Occupation	Age
P1	Immortal 1	Y3	Yes	Student	20
P2	Immortal 1	Y2	Yes	Student	21
P3	Ascendant 2	Y2	Yes	Game Industry Employee	24
P4	Diamond 3	Y1	Yes	Unemployed	24
P5	Radiant	Y1	Yes	Professional Player	18
P6	Ascendant 2	Y1	Yes	Student	21

2.3. Live streaming as the soil of interactive ritual in the new era

Collins posits that social structures are fundamentally chains of countless micro-level interactive rituals. A successful ritual must fulfill four essential conditions: group cohesion, boundary demarcation, shared focus, and emotional resonance. While traditional rituals require coexisting physical spaces, the digital medium enables online "virtual co-presence" to achieve cyber interactive rituals through technological means [8].

2.3.1. Interactive analysis of audiovisual symbols in live streaming room from the perspective of four-dimensional space

In the complex communication field of live streaming, the game space (completely virtual), the event venue (completely real), the two-dimensional live stream space, and the physical space of the audience form an interwoven four-dimensional spatial system. These four spaces are not isolated but permeate each other through specific symbolic interaction mechanisms, creating a "trans-spatial

copresence" that allows audiences to share the same ritual experience even when physically separated.

The game space of *Fearless Contract* operates as a fully virtual dimension, where its audiovisual symbols exhibit remarkable constructiveness. Visually, 3D-constructed environments, character skill effects, and virtual lighting create digital spectacles that defy physical laws. Audibly, electronic sound effects, voice acting, and ambient sounds form a synchronized digital acoustics system. During live broadcasts, additional elements like map data, score updates, economic visualization, and kill broadcast interfaces are integrated. These visual-auditory elements, presented through live streams, divert viewers' attention from reality and immerse them in the virtual narrative framework [1].

In the complex communication landscape of live streaming, the game space (fully virtual), the event venue (fully real), the two-dimensional live stream, and the physical space of the audience form an interwoven four-dimensional system. These four spaces are not isolated but permeate each other through specific symbolic interaction mechanisms, creating a "trans-spatial copresence" that allows audiences to share the same ritual experience even when physically separated.

The game space of *Fearless Contract* operates as a fully virtual dimension, where its audiovisual symbols exhibit remarkable constructiveness. Visually, 3D-sculpted environments, character skill effects, and virtual lighting create surreal spectacles that defy physical laws through digital technology. Audibly, the system integrates electronic sound effects, voice acting, and ambient sounds to form a digital acoustics framework that harmonizes with visual elements. During live broadcasts, additional symbols like map information, score updates, visualized economy displays, and kill broadcast interfaces are incorporated. These elements, presented directly through live streams, divert viewers' attention from reality and immerse them in the virtual narrative framework.

The live event venue, as a fully tangible dimension, creates an immersive experience for digital ceremonies through authentic competition equipment, athletes' physical movements and facial expressions, and the live audience's cheers. Case examples include the opening countdown animation, the exclusive event theme song, highlight moments with repeated replays of key operations during the competition, post-victory award ceremonies, and the audience's jubilation with the host's tribute commentary. These elements imbue viewers with a sense of ritual participation in major events, infusing virtual gaming competitions with real emotional warmth and allowing audiences to perceive the authenticity of competitive behavior.

The two-dimensional space of live streaming exhibits distinct regulatory and guiding characteristics, manifested through contestant facial close-ups, real-time overlay of game interfaces, and interactive bullet-screen windows. Auditory elements center on the host's commentary, command delivery, and emotional modulation. By providing real-time interpretation of game visuals and live event dynamics, the host synthesizes fragmented audiovisual information into a coherent narrative thread, serving as a "navigator" that helps audiences comprehend the four-dimensional spatial relationships.

The physical space of the audience, as a dimension of actual presence for ritual participants, offers greater personalization and freedom compared to mere physical attendance. Viewers can freely choose their viewing devices (smartphones, computer screens), adjust environmental settings, and select audio output options like external speakers or headphones. Their reactions, such as cheers or sighs, become public symbols through bullet-screen comments and gift tipping, which then feed back into the two-dimensional live-streaming space.

Through multisensory synergy of audiovisual elements, the game space's virtual lighting and electronic sound effects create a "first-person" immersion. Real-time visuals and audio from the

event stage provide a "third-person" observational perspective, while the streamer's commentary and close-up shots form a "second-person" interactive illusion. This blending of game visuals, player expressions, and streamer's narration, heightened by virtual sounds and live effects, blurs the boundaries of space, delivering an engaging experience akin to physical presence.

2.3.2. The manifestation of the four elements of ritual in live streaming: bullet comments as the core bond

In this case study, the dual-platform independent viewership during peak moments averaged 80,000 per minute, creating effective audience clustering, as shown in Figure 1. The real-time nature and cross-platform synchronization of live bullet comments (with noticeable time differences between Chinese and English reactions to the same event) also enabled millions of users to achieve 'virtual physical presence' on the online media platform.

Taking the five "interactive ritual eruption phases" in the observation log as an example, the number of participants in ritual discussions ranged from 100 to 1,000 within just a few minutes. As depicted in Figure 2, the volume of bullet comments on both platforms surged more than threefold simultaneously at the championship match point. The "visibility" of bullet comments became a new indicator of group presence, while their ephemeral real-time nature further amplified the "instant participation" characteristic of rituals, fulfilling the requirements for group aggregation.

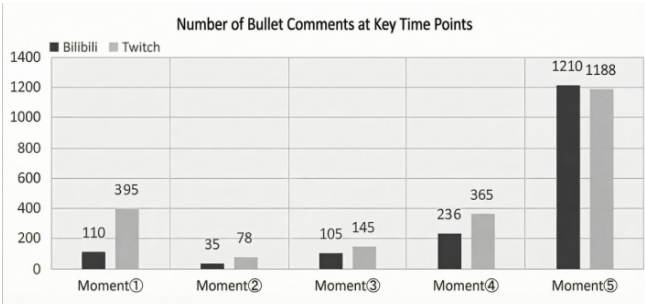


Figure 1. Bullet-screen count statistics during five highlight moments

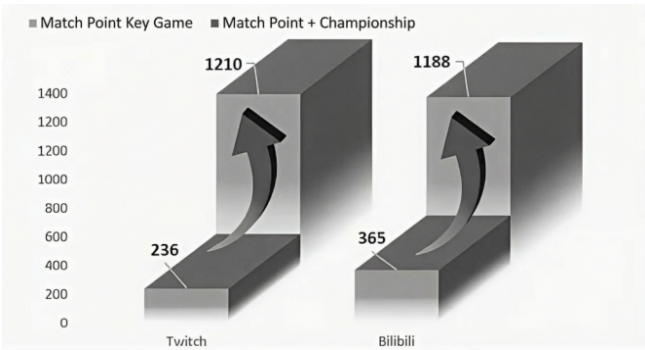


Figure 2. Bombardment of comments during the championship moment

At the same time, the participants showed a significant "meme replication" feature in the ritual interaction. Most of the time, they did not express the meaning of their opinions, but just copied and pasted others' text content as an instant authentication of group belonging, indicating that they were "participating in the ritual".

The real-time scrolling of bullet comments creates a sense of 'massive on-screen presence,' fostering an emotional community [8]. Through “high-density repetitive text,” these comments

evoke emotional resonance, while keyboard interactions and screen engagement transform into a new ritualized form of bodily participation, compensating for physical absence. Beyond being mere information carriers, bullet comments transcend two-dimensional boundaries, becoming one of the few ritualistic behaviors audiences can engage in within virtual spaces. Figure 3 shows the detailed analysis.

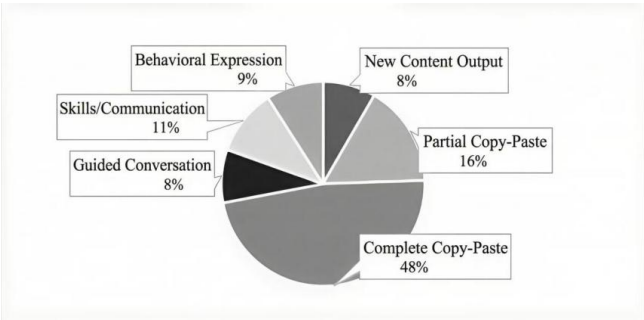


Figure 3. Bilibili platform bullet screen content analysis at moment ⑤

The core mechanism of interactive rituals lies in "emotional bonding and mutual attention." Through platform-mediated visual bullet comments, emotional energy accumulates quantitatively, which validates the collective excitement mechanism in such interactions. The event progression becomes a mandatory focal point, with emotional energy symbolically transmitted. Audience attention synchronizes with extreme bullet comments, game visuals, and commentary, creating a stronger emotional connection.

At moment ⑤, as PRX clinched the championship game with a 2-4 victory, the host declared the title, and players embraced to celebrate the trophy, the bullet-screen keywords dynamically shifted. Particularly during the 12-second window from the endgame to the championship confirmation, the bullet-screen content transitioned sharply from “admiring the players skills” to “celebrating the victory”, as shown in Figure 4. This rapid buildup and release of emotional energy epitomizes the unique ritualistic essence of esports spectating.

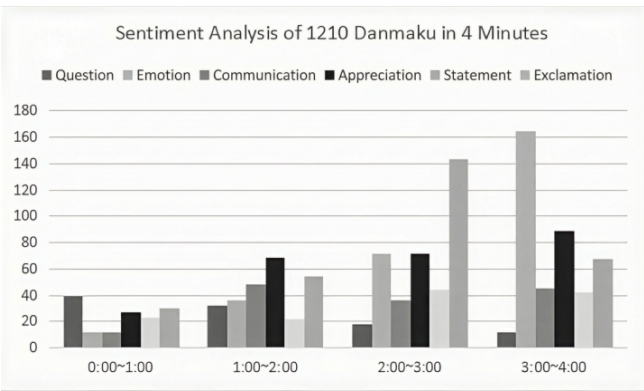


Figure 4. Bilibili platform bullet-screen sentiment analysis at moment ⑤

Meanwhile, the mutual attention among the bullet comments during the interactive ceremony elevated the emotional experience of participants. The game's inherent barriers—such as its viewing requirements, rules, and memes—defined the scope of participants, with these terms serving as external boundaries in the case ceremony. Based on this, the participants focus on the common

symbols that can be understood by each other, and then they share the common emotions or feelings, and finally form the interactive ritual.

During in-depth interviews, participants highlighted how the dual-platform blocking/tipping system creates distinct ritualistic experiences. All six interviewees had used Bilibili's "Keyword Block" feature, unanimously acknowledging its positive impact. This function not only preserves the emotional purity of rituals but also enhances paid users' bullet comments (premium bullet comments) through visual enhancements like font size and color, thereby redefining participants' "co-presence hierarchy." The technology-mediated co-presence experience exhibits clear stratification: paid users gain higher visibility through visually prominent bullet comments, and most participants expressed a preference for such privileges.

However, due to differences in social groups and cultural circles, participants of the same ritual may exhibit divergent celebratory behaviors under certain circumstances. Such variations often involve cross-cultural elements in live stream bullet comments. For instance, while both Twitch and Bilibili platforms feature game enthusiasts as their shared audience during the same live broadcast, their distinct cultural backgrounds create different ritual spectacles [9].

For instance, in scenario ①, most participants in the performance event were foreign streamers. The MVP streamer, who was hit in the face by a cake after the event, had limited domestic recognition. Consequently, the bullet-screen keywords on the two platforms showed stark differences, with a significant quantitative gap: while Bilibili's bullet screens predominantly focused on the cake or food waste, Twitch's comments predominantly expressed emotional reactions to the incident, with a far greater volume compared to domestic platforms. This vividly illustrates how different cultural groups engage with the same online ritual event in distinct ways [9]. Such a situation is more obvious when negative emotions appear, and even the double resistance behavior to the official and other people in the ceremony will appear at the same time.

Furthermore, as Zhang Weiyu notes in *Conflictual Rituals*, the fan communities of both teams engaged in mutual taunts and verbal sparring [10]. This not only delineated the boundaries between 'our group' and 'their group,' but also generated distinctive symbolic expressions that became hallmarks of the opposing groups during the confrontation.

This dynamic interplay creates a dual effect: externally, it reinforces the barrier effect of ritual participation by raising the entry threshold; internally, it sustains ritual vitality through continuous emotional stimulation and symbolic innovation. Under the combined influence of algorithmic visibility and real-time feedback mechanisms on live-streaming platforms, such conflicts often rapidly transform into internal group cohesion, forming a cyclical pattern of.

Due to the "storable nature" of online media, the replay views of the bullet comments within 24 hours after the event reached 33,000 (Bilibili), extending the ritual effect. Discussions on platforms like TikTok and Weibo also continued to heat up, generating corresponding memes and emojis. Discussion forums across various platforms frequently mentioned anticipation and attention for the next event, creating a sustained emotional impact on the participants. This anticipation differs from the "brief emotional stimulus" in the original model and represents a long-lasting emotional state [8]. The mediation of media technology facilitated the formation of this cycle, ultimately achieving the long-term inheritance of the ritual.

3. Conclusion

The study demonstrates that bullet-screen interactions in esports live streams successfully establish the interactive ritual chain as defined by Collins. This study also reveals new characteristics of interactive rituals in the digital age: media mediation, cross-cultural dimensions, spatiotemporal

extension, and conflict integration. By introducing the "four-dimensional space" framework and conducting in-depth analyses of cross-cultural and technological mediation factors, this study further expands the application boundaries of this theory in the cutting-edge field of globalized esports.

However, this study has certain limitations. Firstly, the case selection focuses on the 2025 Toronto Masters event of the "Fearless Contract" tournament, but the uniqueness of this single event may limit the generalizability of conclusions. Future research could expand to compare different types of events or cross-year competitions to verify the stability of bullet-screen interaction rituals. Secondly, the analysis of platform algorithms remains at the phenomenological level, without exploring the implicit influence of technical details on bullet-screen interaction rituals. Future work could incorporate technical tracking tools to quantify algorithmic pathways.

In general, esports live streaming is not only a subcultural carnival, but also an important part of the new public sphere in the digital era. The group solidarity and cultural collision embodied in the bullet-screen interaction rituals provide a unique window for understanding the collective emotional operations and cross-cultural communication in contemporary society.

References

- [1] Lippmann. (2023). Visual narrative and immersive experience construction in esports live streaming. *Modern Communication*, (2), 98-104.
- [2] Zhou, B. (2021). Danmu in online live streaming: The reconstruction of sociality and participatory culture. *Journal of Journalism and Communication Studies*, (5), 23-40.
- [3] Pan, S., & Zhang, Y. (2014). Identity and symbol production in fan communities: A case study of Hallyu fans. *International Journal of Journalism*, 36(8), 48-63.
- [4] Chen, Z., & Li, M. (2022). Sentiment analysis of live streaming websites' online bullet comments. *Software Guide*, 21(5), 73-78. <https://navi.cnki.net/knavi/journals/RJDK/detail>
- [5] Lin, X. (2021). A study on the bullet screen interaction in game live streaming from the perspective of interactive ritual chain (Master's thesis, Xi'an International Studies University). <https://apps.wanfangdata.com.cn/thesis/Detail/D03002043>
- [6] Collins, R. (2004). *Interactive ritual chains* (J. Lin et al., Trans.). Commercial Press.
- [7] Yu, G. (2022). Virtual coexistence in the digital media era: Paradigm shift in social interaction. *Modern Communication*, (3), 1-8.
- [8] Liu, N. (2023). The collective carnival mechanism of online bullet comments from the perspective of emotional community. *Journalism and Writing*, (7), 56-62.
- [9] Zhao, Y. (2023). Symbols and cross-cultural communication: Cultural encoding and decoding in bullet comments. *International Journal of Journalism*, (5), 32-49.
- [10] Zhang, W. (2024). Conflictual interaction rituals: Opposition and identity in online communities. *Sociological Research*, (1), 112-130.