

Consumerism Behavior in Gaming Live Streaming: A Comparative Study of Subscription-Gifting Among YouTube Gaming Viewers in Indonesia and Douyu Viewers in China

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ABSTRACT

This study aims to analyze consumer behavior in live streaming, focusing on gift-giving behavior on *YouTube Gaming* in Indonesia and *Douyu* in China. Using a descriptive qualitative approach, this research explores the influence of parasocial presence (PSR) and social presence (SP) on viewers' decisions to gift streamers. The study also conducts a comparative analysis with previous research on *Douyu* to identify similarities and differences in audience behavior. The findings indicate that although PSR influences gift-giving behavior, its effect is stronger on *YouTube Gaming* than on *Douyu*, where higher donation amounts are observed. These results contribute to understanding the evolution of digital culture, particularly regarding consumerism in new media, and its global cultural relevance.

Keywords: Live Streaming; YouTube Gaming; Indonesia

INTRODUCTION

The viewing culture in Indonesia has evolved from traditional forms of entertainment to digital content, such as streaming *Valorant* on *YouTube Gaming*. This platform serves not only as a source of entertainment but also as a space for communication and community-building among gamers (Hu, Zhang, & Wang, 2017). The phenomenon of subscription-gifting behavior on *YouTube Gaming* introduces a new layer of consumerism, where audiences provide financial support to streamers through virtual gifts (Liang, Zheng, & Zhang, 2022). This shifts the user experience into something both interactive and consumptive, creating a social hierarchy based on financial contribution (Hamilton, Garretson, & Kerne, 2014). Consumerist culture gradually replaces collective appreciation with an individualized, finance-oriented experience (Sun & Zhang, 2023). This shift relates to Sustainable Development Goal 12, which advocates for responsible and sustainable consumption (Wang & Li, 2019). This study focuses on understanding the factors that influence audiences to make virtual donations, thereby fostering a culture of consumerism, and how these donations impact user experience in engaging with streamers in Indonesia and *Douyu* in China (Zhao & Hefner, 2020).

The emergence of live-streaming platforms, particularly *YouTube Gaming* and *Douyu*, has transformed the digital entertainment landscape. The use of live streaming on social media today is widely utilized not only as a form of entertainment but also as a platform for marketing in various business sectors (Rinaldo, n.d.). As a unique business model, the gifting function has been adopted by many live streaming platforms, such as "Bits" on Twitch, "Super Chat" on *YouTube Live*, "Rubi" on YY.com, "Fishball" on *Douyu*, and "Star Balloon" on AfreecaTV.

Gift-giving in live streaming serves as an effective way to attract public attention, particularly through the sending of high-value gifts. As a result, users often send virtual gifts to streamers to strengthen their relationship and enhance their perceived social status (Hamilton et al., 2014; Oh & Choi, 2017; Yu et al., 2018, as cited in Li & Peng, 2021).

These platforms provide spaces for gamers to interact with audiences, and viewers often engage in gift-giving behavior as a form of social interaction and support for streamers. This phenomenon has gained increasing attention due to the significance of parasocial presence (PSR), the one-sided emotional connection viewers form with streamers, and social presence (SP) (W. Zhang, 2022), which refers to the feeling of involvement and belonging to a community in online interactions. There are 616 million live streaming users in China, making up 62.4 percent of the country's internet population (Tang & Wang, 2022). Live video streaming has emerged as a new form of social media, offering users novel ways to engage in social interactions and entertainment (Niu et al., 2022). Despite the growing popularity of live streaming, the relationship between PSR, SP, and gift-giving behavior remains underexplored, especially in the context of *YouTube Gaming* in Indonesia and *Douyu* in China.

Previous studies, such as those focusing on Chinese streaming platforms, have confirmed the existence of PSR and SP; however, the correlation between these variables and audience behavior remains inconsistent. Some studies report a strong relationship between PSR and gift-giving, while others indicate weak correlations (Zhao & Hefner, 2020). These varied findings call for a deeper understanding of the role PSR and SP play in motivating viewers to participate in the gift-giving culture of live streaming (Sun & Zhang, 2023).

This study aims to examine consumer behavior related to gift-giving during live streaming on *YouTube Gaming* in Indonesia and *Douyu* in China, exploring how PSR and SP influence viewers' donations (Lin & Peña, 2021). Additionally, this research will perform a comparative analysis between the behavior observed on these two platforms to gain deeper insights into the cultural and social factors shaping gift-giving behavior in distinct digital environments.

The objectives of this research are: 1) to analyze the correlation between parasocial presence (PSR) and gift-giving behavior on *YouTube Gaming* and *Douyu*, 2) to compare the impact of social presence (SP) on both platforms, and 3) to explore the implications of these findings for a broader understanding of digital consumerism and the preservation of digital cultures.

METHOD

This study employed a qualitative descriptive method to analyze the gift-giving behavior of *YouTube Gaming* viewers in Indonesia. Data were collected through online surveys using a Likert scale, targeting viewers who had donated or gifted to streamers, and in-depth interviews to explore the motivations behind gift-giving, focusing on parasocial relationship (PSR) and parasocial interaction (PR) as key factors. Observational data from live streaming events were also gathered, concentrating on interactions such as donations and viewer comments. Streamers selected for this study included @santiago.liveee, @milton_ayler, and @AlvinSusanto12. Data were analyzed using thematic analysis to identify recurring themes in motivations and behaviors, alongside descriptive statistics to summarize donation amounts and viewer engagement. This approach provided a deeper understanding of the psychological and social

factors behind gift-giving in live streaming, particularly the influence of PSR and PR. A comparative analysis with previous studies on *Douyu* was also conducted to explore differences across platforms, although the primary data source remained *YouTube Gaming* in Indonesia.

RESULTS AND DISCUSSION

Findings

The distributed questionnaire was completed by 102 respondents, ranging in age from 15 to 36 years old, with the majority of respondents being 22 years old.

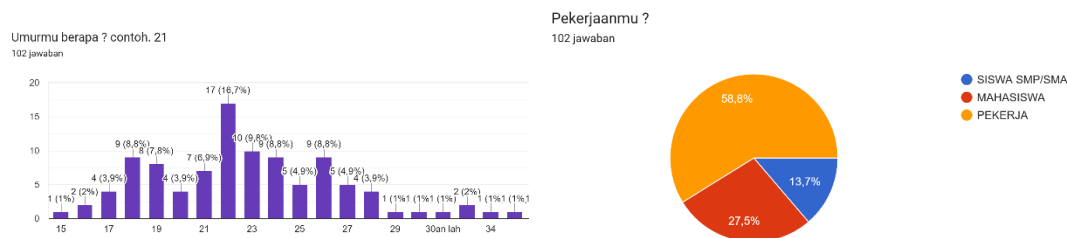


Figure 1. Questionnaire Results
Source: Processed Data

The detailed distribution of occupations is as follows: the audience was predominantly composed of workers, accounting for 58.8%, followed by university students at 27.5%, and high school students at 13.7%.

the following table presents the questionnaire data used to analyze user experience and the factors influencing subscription, gifting, and donation behaviors in live streaming on YouTube Gaming. The questionnaire consists of 3 open-ended questions, 1 multiple-choice question, and 19 Likert-scale items (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree) designed to measure the extent to which respondents agree with statements related to their live streaming viewing experience and their motivations for donating or subscribing to features such as Super Chat, Super Stickers, and Channel Membership. Some questions focus on elements of user experience, such as viewing comfort and the quality of interaction with the streamer, including direct reactions from the streamer. These aspects aim to examine how positive or negative experiences influence the audience's decision to subscribe or donate.

In addition, the questionnaire explores the audience's motivations for donating—whether to gain attention from the streamer, provide financial support, or access exclusive content. These factors help uncover what drives the use of features like Super Chat and Membership. The questionnaire also identifies gifting behavior, whether as a form of appreciation for content quality or as a way to build social connections within the live streaming community.

Overall, this questionnaire aims to understand the dynamics of audience behavior in interactions with streamers and the influence of platform features in fostering consumerist culture and shaping users' decisions to donate or subscribe. The data provides deeper insights into audience motivations and preferences in the context of live streaming on YouTube Gaming.

Table 1. Questionnaire Results

Aspect	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Donations to support favorite streamer	1%	1%	5,9%	39,2%	52,9%
Donations to get attention or direct interaction from the streamer	2%	4,9%	8,8%	43,1%	41,2%
Appreciation for the content presented	1%	2%	4%	35,6%	57,4%
Donations make my watching experience more enjoyable	1%	1%	11,8%	41,2%	45,1%
Watching experience becomes more exclusive	2%	5,9%	7,8%	38,2%	46,1%
Spending more money on donations	17,6%	25,5%	30,4%	17,6%	8,8%
Mentioning my name or thanking me influences my decision to donate	2,9%	9,8%	24,5%	31,4%	31,4%
Engaging and interactive content encourages me to donate	1%	3,9%	4,9%	34,3%	55,9%
Streamer's good gaming skills make the stream more exciting	2%	1%	2,9%	31,4%	62,7%
Personal interaction with the streamer motivates me to donate	2,9%	5,9%	13,7%	31,4%	46,1%
Streamer's appearance motivates me to donate	3,9%	2,9%	11,8%	37,3%	44,1%
Streamer's friendly and interactive communication style influences me to keep watching	1%	0%	8,9%	46,5%	43,6%
Streamer's relaxed and humorous language makes me more inclined to donate	1%	1%	10,8%	39,2%	48%
Streamer responding to my comments or questions increases the chance of me donating	1%	2,9%	12,7%	37,3%	46,1%

Source: Processed Data

The phenomenon observed in streamers such as Santiago, Milton.Ayler, and AlvinSusanto12 can be linked to Csíkszentmihályi's (1975) concept of *Flow Experience*, which describes an optimal psychological state in which a person is fully immersed in a challenging activity that matches their skill level, resulting in intrinsic satisfaction. In this study, 45.1% and 41.2% of respondents stated that making donations enhanced their viewing experience, making it more enjoyable.

In the context of live streaming, streamers like these are often engaged in demanding activities that require high levels of skill, such as competitive gameplay while simultaneously interacting with the audience. To create a flow experience, skilled streamers are more likely to facilitate such immersive moments. This is supported by a questionnaire item stating that "a streamer's good gameplay makes the live stream more exciting," which was agreed upon by 62.7% of respondents. According to West and Turner (2014), audience perception theory refers to how audiences interpret and assign meaning to messages or content delivered to them. Audiences do not passively absorb messages; rather, they actively construct meaning based on various factors, including personal background, prior experience, values, and their socio-cultural context.

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Table 2. Aspects

Aspect	@santiago.liveee	@milton.ayler	@AlvinSusanto12
Content Focus	Competitive Valorant, gameplay analysis, and audience interaction	Competitive Valorant, gameplay analysis, playing with audience, 1-hour training challenge, and streamer tournament events	Competitive Valorant, gameplay analysis, playing with audience, watching international tournament events, collab with pro-players
Distinctive Feature	Emphasizes gameplay performance, strategy, and Q&A interaction	Emphasizes gameplay performance, strategy, and Q&A interaction, does cosplay every live stream	Emphasizes fun play, interaction with community members, and Q&A interaction with subscriber-only audience
Donations	High, creates an interactive and lively atmosphere, especially for top-donors	High, creates an interactive and lively atmosphere, especially for top-donors	Low, donations are relatively lower compared to other major streamers
Donation Methods	Sociabuzz	Sociabuzz, Saweria, Membership, Superchat, Supersticker	Sociabuzz, Saweria, Membership, Superchat, Supersticker
Total Donations per November	IDR 12,035,409	IDR 10,635,636 (Sociabuzz), IDR 12,160,000 (Saweria)	IDR 3,185,000
Main Attraction	High-quality gameplay, skilled play, always playing competitive, playing with audience, and active interaction with viewers	Cosplaying every stream, intensive interaction with the audience, hosting tournaments and playing with the audience, opening Valorant classes and sharing tips and tricks	Frequent collaborations with Valorant pro-players such as @FFroody, @JasonSusanto, and @Xccurate
Live Stream Frequency	4-6 times a week, with an average of 5-10 hours per stream	7-9 times a week, with an average of 3-5 hours per stream	5-6 times a week, with an average of 3-5 hours per stream
Subscriber Count	541	9.64K	25.8K

Source: Processed Data

From the survey data, we found that a significant number of viewers reported donating due to their connection with the streamer, demonstrating a Parasocial Relationship (PSR). More than 50% of respondents indicated feeling a strong emotional connection with the streamers, which motivated them to donate. Among the three streamers, @milton_ayler had the highest donation rate, with an average monthly donation exceeding IDR 22 million. This can be attributed to his strategy of hosting viewer competitions, playing with viewers and incorporating cosplay during streams, which strengthened the bond between him and his audience, reflecting the strong influence of PSR. In-depth interviews revealed that most viewers cited the emotional bond with the streamer—such as appreciation for the streamer's gaming skills or personality—as their primary motivation for donating. As one respondent stated: "I donate because I enjoy watching Koh Milton, and I want to show my support and appreciation for his gameplay." This is also related to Parasocial Interaction (PR), where viewers engage with the streamer through comments or donations, despite the inherently one-sided nature of the relationship.

Based on in-depth interviews with three respondents—Zaidan Arie Rahman (22, freelancer), Hanif Miftah Koswara (22, motion graphic designer), and Daffa Rihadatul Fairus (23, web developer)—the motivations behind donating during *Valorant* live streaming sessions on YouTube Gaming revolve around a blend of emotional connection, content appreciation, and community engagement. Zaidan, who enjoys watching streamers with humorous and interactive gimmicks, highlighted entertainment and learning as his primary motivations, using donation features like channel membership to support streamers he finds engaging. He emphasized how donations serve as a tool to gain the streamer's attention amidst crowded live chats, contributing to a sense of personal connection, even if temporary. Despite a decrease in donation frequency, Zaidan noted that his viewing experience remained enjoyable, although he admitted that unread donations could lessen satisfaction. He also cautioned against the potential rise of a consumerist culture, suggesting preventive measures such as milestone goals or donation limits to maintain balance.

Similarly, Hanif is motivated to donate not only to support the streamer's growth but also to engage in meaningful community interactions, particularly with smaller streamers who are more responsive and able to foster collaborative environments. Hanif viewed donations as enhancing the streaming atmosphere—making it more festive and interactive—while recognizing alternative support systems like merchandise purchases and meet-and-greets as valuable. He advocated for streamers to develop interactive and unique content that could naturally encourage donations, particularly during special events. For him, content quality, streamer interaction, and collaborative gameplay are more influential than the streamer's skill level or language tone, unless overtly toxic.

In contrast, Daffa, who recently began donating, focuses more on accessing exclusive content through channel memberships rather than emotional gratification. While his motivation remains generally unspecific, he acknowledged that donations could make the stream feel more exclusive and dynamic. However, he also pointed out the lack of response from streamers and the community as a downside, noting that such silence might affect donor satisfaction. Although he rarely donates, he budgets responsibly and believes that donation features can foster a consumerist culture if not managed thoughtfully. Daffa suggested that exclusive, value-added content should be tied to donations to make them more purposeful. He considers streamer gameplay and visual presentation significant influences on his donation behavior, while the use of toxic or non-toxic language does not strongly affect his engagement. Notably, he also criticized the lack of a replay system in *Valorant*, which he believes limits content variety and rewatchability.

Collectively, these findings demonstrate that personal interaction, content quality, and community presence are crucial factors influencing viewers' willingness to donate during live streams, with each respondent exhibiting nuanced motivations shaped by their individual expectations and viewing experiences. While donations enhance the viewer experience for some, the potential for fostering a consumerist culture remains a shared concern, indicating the need for mindful design and implementation of monetization features in live streaming platforms.

Several key factors influence audiences to donate or subscribe to features such as *Super Chat*, *Super Stickers*, and *Channel Membership* during live streaming on YouTube Gaming. First, entertainment and learning motivations—such as engaging gameplay, humorous

gimmicks, and personal interaction—serve as significant attractions for viewers. Second, donation features enable audiences to gain direct attention from the streamer amidst a crowded live chat, creating a sense of satisfaction and pride through acknowledgment. Third, access to exclusive content offered through channel memberships—such as special content, exclusive Q&A sessions, or custom badges—also influences viewers' decisions to subscribe. Additionally, collaborations with professional players and the promotion of interactive content enhance the perceived value of these features.

Virtual donations significantly affect user experience by fostering more intense and vibrant interactions between streamers and their audiences. These donations create a more engaging atmosphere through direct responses from streamers, including eye-catching visual notifications, creative reactions, or unique gimmicks, which offer emotional gratification to donors. This interaction helps build an emotional bond between streamers and audiences, aligning with Bowlby's (1973) attachment theory and social-interactionist theory, both of which emphasize how active communication enriches the viewing experience. However, this phenomenon also gives rise to consumerist culture. Data shows that 30.4% to 39.2% of audiences believe that donation features encourage consumerist behavior. The desire for recognition, social status, or attention from the streamer often becomes a driving force behind excessive spending. This aligns with Baudrillard's (1998) theory of consumerism, in which consumption—such as donating—goes beyond fulfilling functional needs and becomes part of a lifestyle driven by emotional and social desires.

Analysis

The analysis of donation behaviors among YouTube Gaming viewers underscores the pivotal role of Parasocial Relationships (PSR) in influencing donation decisions. Streamers such as @milton.ayler, who actively engage their audiences through interactive activities like cosplay and tournaments, are able to generate significant donation amounts, highlighting the emotional attachment that viewers develop. Similarly, @santiago.liveee's emphasis on competitive gameplay and direct audience interaction fosters strong viewer bonds, thereby contributing to higher donation rates. In contrast, @AlvinSusanto12, despite having a larger subscriber base and professional collaborations with pro-players, receives lower donations, suggesting that emotional engagement, rather than popularity alone, is a more critical factor in motivating viewer contributions. Survey results reinforce this finding, with 92.1% of respondents indicating that their primary motivation for donating was either to support their favorite streamer or to experience a sense of personal interaction.

While Parasocial Interaction (PR) is present, the data suggests it plays a secondary role compared to PSR. Viewers do not necessarily expect direct recognition or reciprocal engagement from streamers; instead, the decision to donate often stems from a one-sided emotional bond cultivated over time. In-depth interviews with three respondents, Zaidan, Hanif, and Daffa, further illuminate the primacy of PSR. Zaidan, a freelancer, donates to support his preferred streamer and to enhance his enjoyment of interactive and humorous content. Hanif, a motion graphic designer, views donations as a means of contributing to the growth of the community and fostering deeper interactions with smaller streamers. Daffa, a web developer, donates primarily to access exclusive content that enriches his viewing

experience. All respondents emphasized the emotional connection with the streamer and the importance of community participation as major determinants of their donation behavior.

These findings suggest that PSR functions as the foundational catalyst for donation behavior, where emotional affinity and a perceived sense of belonging drive viewers to contribute financially, independent of any expectation for direct interaction. PR, while capable of reinforcing loyalty through acknowledgments such as thank-you messages or live comment responses, appears to serve a complementary, rather than primary, motivational function. This dynamic aligns with the broader cultural context of Indonesia, wherein communal values, emotional solidarity, and collective participation profoundly shape consumer behaviors, including the practice of financial gifting within live streaming ecosystems.

Comparative Analysis

In contrast to the findings of Wenchi Zhang's study "*Understanding Gift-Giving in Game Live Streaming on Douyu: An Evaluation of PSR/Social Presence*", which concluded that PSR and social presence (SP) had no significant correlation with gift-giving behavior—possibly due to the participants' limited financial capacity as most were students aged 18–25—the present study on Indonesian YouTube Gaming audiences reveals a different pattern. Among 102 respondents aged 15 to 36, the majority were 22 years old, with 58.8% identified as working professionals. In this context, parasocial relationships (PSR) still play a role in building audience loyalty; however, the primary motivation for donating is closely linked to the expectation of immediate recognition from streamers, such as being mentioned or thanked during live sessions. This indicates a stronger transactional dynamic in the Indonesian context, where financial contributions are perceived as a direct means to gain interaction and social visibility. Notably, in the case of streamer @milton_ayler, average monthly donations exceeded IDR 22 million, further illustrating how donation behavior is influenced by perceived return in the form of visibility and engagement.

Comparative analysis between Douyu (China) and YouTube Gaming (Indonesia) reveals distinct patterns in how Parasocial Relationship (PSR) and Parasocial Interaction (PR) influence gift-giving behavior. In Douyu, PSR serves as the primary driver of donations, where emotional attachment to streamers is sufficient to motivate financial contributions without necessitating direct interaction (Z. Zhang & Liu, 2024). Viewers develop a perceived friendship or admiration towards streamers, maintaining loyalty through affective bonds rather than reciprocal communication.

Conversely, in the Indonesian YouTube Gaming context, PR exerts a more significant influence. While PSR still underpins audience loyalty, donations are often motivated by the expectation of direct recognition, such as being mentioned or thanked by the streamer during live sessions (Lim et al., 2020; Hu et al., 2017). This reflects a transactional dynamic where financial contributions are seen as a means to facilitate interaction and social visibility (Sjöblom et al., 2019). Cultural factors, particularly the collectivistic orientation and high value placed on interpersonal acknowledgment in Indonesian society, amplify the role of PR in shaping viewer behavior (Triastuti & Azali, 2021; Yu et al., 2022).

Thus, while both platforms demonstrate the foundational role of PSR in building audience attachment, Indonesian viewers display a higher dependency on PR to reinforce their donation behaviors. These findings illustrate how cultural contexts and platform affordances

interact to produce different consumer behaviors in live streaming ecosystems, emphasizing the need for culturally nuanced interpretations of parasocial phenomena in digital environments.

CONCLUSION

This study found that PSR strongly motivates donations on both platforms but through different mechanisms. On *Douyu*, emotional attachment drives viewers to support streamers without expecting direct acknowledgment, while on *YouTube Gaming*, viewers combine emotional connection with a desire for interaction, making both PSR and parasocial interaction (PR) key factors. Social presence (SP) also differed: *YouTube Gaming* features a more dynamic SP where donations enhance social visibility, whereas *Douyu* maintains a more distant SP, reinforcing traditional idol-viewer boundaries. These differences reflect cultural influences, with Indonesia's collectivist values encouraging interactive digital consumerism and China's culture favoring admiration and passive support. The findings suggest that digital consumerism is culturally contextualized, emphasizing the need for platforms to tailor strategies that respect and nurture these unique cultural dynamics. Future research could explore how evolving digital cultures and cross-cultural interactions influence gift-giving behaviors and community sustainability across emerging streaming platforms.

REFERENCES

- Chen, C.-P. (2021). Understanding the motivations and gratifications of live-streaming viewers: A uses and gratifications perspective. *Telematics and Informatics*, 57, 101510. <https://doi.org/10.1016/j.tele.2020.101510>
- Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on Twitch: Fostering participatory communities of play within live mixed media. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1315–1324. <https://doi.org/10.1145/2556288.2557048>
- Hu, M., Zhang, M., & Wang, Y. (2017). Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Computers in Human Behavior*, 75, 594–606. <https://doi.org/10.1016/j.chb.2017.06.006>
- Li, Y., & Peng, Y. (2021). What drives gift-giving intention in live streaming? The perspectives of emotional attachment and flow experience. *International Journal of Human-Computer Interaction*, 37(14), 1317–1329.
- Liang, Y., Zheng, X., & Zhang, X. (2022). Understanding the live streaming viewing behavior and its effect on consumer behavior: Evidence from China. *Electronic Commerce Research and Applications*, 52, 101128. <https://doi.org/10.1016/j.elerap.2022.101128>
- Lim, S. S., Lee, J. H., & Kim, Y. (2020). Parasocial relationships in live streaming: Examining viewers' behavioral intentions and the mediating role of social presence. *Telematics and Informatics*, 51, 101401. <https://doi.org/10.1016/j.tele.2020.101401>
- Lin, J.-H., & Peña, J. (2021). Are you a true fan? Parasocial relationships and social presence in live streaming platforms. *Journal of Broadcasting & Electronic Media*, 65(2), 251–270. <https://doi.org/10.1080/08838151.2021.1906153>
- Luo, M., & Hancock, J. T. (2020). Self-disclosure and social support in live streaming: A social penetration theory perspective. *Information, Communication & Society*, 23(3), 406–423. <https://doi.org/10.1080/1369118X.2018.1518473>

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- Niu, G., Shi, X., Jin, S., Yang, W., Wu, Y., & Sun, X. (2022). Machiavellianism and gift-giving in live video streaming: The mediating role of desire for control and the moderating role of materialism. *Behavioral Sciences, 12*(5). <https://doi.org/10.3390/bs12050157>
- Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2019). The ingredients of Twitch streaming: Affordances of game streams. *Computers in Human Behavior, 92*, 20–28. <https://doi.org/10.1016/j.chb.2018.10.012>
- Sun, Y., & Zhang, Y. (2023). Exploring the impact of live streaming gift-giving behavior on user satisfaction and loyalty: The moderating role of parasocial interaction. *Journal of Retailing and Consumer Services, 70*, 103106. <https://doi.org/10.1016/j.jretconser.2022.103106>
- Tang, L., & Wang, Y. (2022). Social presence and viewer engagement in live streaming: The mediating role of parasocial interaction. *Internet Research, 32*(1), 1–20. <https://doi.org/10.1108/INTR-06-2020-0340>
- Triastuti, D., & Azali, K. (2021). Social media influencers, parasocial interaction, and digital intimacy in Indonesia. *Jurnal Komunikasi: Malaysian Journal of Communication, 37*(1), 1–18. <https://doi.org/10.17576/JKMJC-2021-3701-01>
- Wang, H., & Li, X. (2019). A study of live-streaming gift giving: The role of social presence and parasocial relationship. *International Journal of Human-Computer Interaction, 35*(11), 975–985. <https://doi.org/10.1080/10447318.2018.1519253>
- West, R., & Turner, L. H. (2014). *Introduction to communication: Communication concepts and skills*. Cengage Learning.
- Yu, L., Hu, Y., Zhang, M., & Wang, C. (2022). Exploring the role of cultural values and social presence in live streaming commerce. *Journal of Retailing and Consumer Services, 66*, 102888. <https://doi.org/10.1016/j.jretconser.2021.102888>
- Zhang, W. (2022). Understanding gift-giving in game live streaming on Douyu: An evaluation of PSR/social presence (L. Zhihan, Trans.). *Frontiers*. <https://doi.org/10.3389/fpsyg.2022.953484>
- Zhang, Z., & Liu, F. (2024). Gift-giving intentions in pan-entertainment live streaming: Based on social exchange theory. *PLoS ONE, 19*(1). <https://doi.org/10.1371/journal.pone.0296908>
- Zhao, E., & Hefner, D. (2020). From consumers to supporters: Examining how live streaming audiences engage with content creators through gift-giving and comments. *New Media & Society, 22*(8), 1354–1373. <https://doi.org/10.1177/1461444819884579>