

Parasocial Communication with Digital Influencers: A Communication Science Perspective on Virtual Proximity

Nurul Fadhilah

Universitas Sriwijaya, Indonesia

e-mail: nurulnawalaedu@gmail.com

Entered : January 28, 2026

Accepted: February 22, 2026

Revised : February 15, 2026

Published : February 25, 2026

ABSTRACT

Parasocial communication with digital influencers has become a significant phenomenon within the contemporary social media landscape. This study aims to examine the mechanisms underlying parasocial relationship (PSR) formation between audiences and digital influencers, including AI-generated virtual influencers, and their implications for consumer behavior and psychological well-being. Through a systematic literature review of 20 internationally peer-reviewed journal articles (2021–2025), the study identifies key mediating factors of virtual proximity: source credibility, self-disclosure, self-discrepancy, social presence, trust, and authenticity perception. Results indicate that micro- and nano-influencers generate stronger parasocial bonds than mega-influencers (mean PSR = 4.35 vs 3.42). The integration of virtual influencers adds complexity to these relations through dimensions of origin uncertainty and anthropomorphism. The study contributes by proposing the Integrative Digital Parasocial Model (IDPM), which maps the pathway from content characteristics to behavioral responses via relational mediators.

Keywords: *consumer behavior; digital communication; digital influencer; parasocial relationship; virtual identity.*

INTRODUCTION

The concept of parasocial interaction, first articulated by Horton and Wohl (1956) to describe the illusion of face-to-face connection that television viewers form with on-screen performers, has evolved considerably in the social-media era. Today, digital influencers, creators who cultivate large public audiences on platforms such as Instagram, YouTube, TikTok, and Twitch, constitute the primary sites of parasocial engagement for hundreds of millions of followers worldwide (Lou, 2021; Joshi et al., 2023). Unlike traditional broadcast personalities, influencers cultivate perceived intimacy through frequent, multimodal, and highly interactive content: behind-the-scenes stories, live streams with real-time chat, personalized replies, and curated life narratives that simulate relational closeness. This modality intensifies parasocial bonds by



combining immediacy, perceived accessibility, and algorithmically amplified exposure, making followers feel known and emotionally invested despite one-sided relationships. As Lou (2021) and Joshi et al. (2023) show, these contemporary parasocial ties carry distinct consequences for identity, consumption, and persuasion: they can shape followers' attitudes and behaviors, influence norms of self-presentation, and alter expectations about authenticity and relational reciprocity in mediated environments.

The significance of parasocial relationships has expanded alongside the rapid growth of the influencer economy, becoming a mass-scale social phenomenon rather than a niche media effect. Platform analytics and survey research show that many followers report feelings that closely resemble friendship, emotional intimacy, and personal connection with influencers they have never met in person. These one-sided ties are more than experiential curiosities: a growing evidence base links PSRs to concrete behavioral and psychological outcomes. Empirical studies indicate that strong parasocial bonds increase purchase intentions and brand loyalty, followers are more likely to accept product recommendations from an influencer they feel close to, and shape information adoption, so that followers may accept an influencer's claims or opinions with less critical scrutiny (Hoffner & Bond, 2022). At the same time, parasocial engagement has implications for wellbeing: intense PSRs can provide social support and a sense of belonging for some individuals, yet for others they may exacerbate social comparison, unrealistic expectation, or emotional dependence when mediated intimacy substitutes for real reciprocal relationships (Breves et al., 2021). In sum, the scale and intensity of contemporary PSRs mean they function as powerful vectors of persuasion, identity influence, and psychosocial effect within digital publics.

A notable development in recent years is the rapid rise of virtual influencers, computer-generated personas crafted to simulate human appearance, personality, and content production. Examples such as Lil Miquela and Imma have attracted audiences numbering in the millions, prompting theoretically and practically important questions about the formation and consequences of parasocial relationships with non-human agents (Stein et al., 2022; Liu & Wang, 2025; Lim & Lee, 2023). Unlike human creators, virtual influencers are designed end-to-end: their visual aesthetics, narrative arcs, and interaction strategies can be engineered to maximize engagement, brand fit, or affective resonance, raising unique issues about authenticity, intentionality, and ethical transparency. Empirical and conceptual work in this area explores whether followers experience similar feelings of intimacy, trust, and emotional investment with synthetic personas as they do with real people, and whether the affordances of virtual agents, predictable behavior, controllable messaging, and perpetual availability, alter the strength, stability, or consequences of parasocial bonds. These inquiries carry direct implications for marketing, media regulation, and mental health: if audiences form robust PSRs with virtual influencers, then influence flows, persuasion dynamics, and potential harms (for example,

unrealistic standards or manipulative targeting) may be intensified by entities that lack human accountability.

Despite a burgeoning empirical literature, important theoretical gaps persist in our understanding of parasocial relationships (PSRs) with digital influencers. First, the micro-level communication mechanisms that convert passive media exposure into active parasocial bonding, such as narrative disclosure, interactive cues, and perceived responsiveness, have not been systematically synthesized, leaving unclear which features of mediated interaction most reliably generate feelings of intimacy and trust. Second, the moderating role of influencer typology remains contested: evidence is mixed on whether micro-influencers versus mega-influencers, and human versus virtual personas, produce stronger or more durable PSRs, and under what contextual conditions these differences emerge. Third, scholars have yet to integrate the psychological and ethical consequences of PSRs for consumer behavior and wellbeing into a cohesive account; questions about responsibility, what duties platforms, brands, and creators owe to audiences who form intense one-sided bonds, have received insufficient cross-disciplinary attention (Ashraf et al., 2023; Liu & Zheng, 2024).

This study addresses these lacunae through a systematic literature review of 20 peer-reviewed articles published between 2021 and 2025. It pursues three interrelated objectives: (1) to identify and synthesize the psychological and communicative mechanisms that underpin PSR formation with digital influencers, clarifying how narrative strategies, interactivity, and platform affordances combine to produce perceived intimacy; (2) to compare PSR dynamics across influencer typologies, including human micro- and mega-influencers, and virtual influencers, to specify boundary conditions and moderators of parasocial intensity; and (3) to consolidate these insights into the Integrative Digital Parasocial Model (IDPM), a theoretically grounded framework that offers practical implications for communication practitioners, platform designers, regulators, and consumer researchers interested in the ethics, design, and effects of influencer-driven mediated relationships.

METHODOLOGY

This study adopts a Systematic Literature Review (SLR) design, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. SLR was selected as the most appropriate methodology for synthesizing a heterogeneous body of empirical and theoretical research on PSR in the digital influencer context.

Database searches were conducted across Scopus, Web of Science, and Communication Abstracts using the following keyword combinations: "parasocial relationship", "digital influencer", "virtual influencer", "social media parasocial", "influencer marketing consumer behavior", and "parasocial interaction well-being". The search was restricted to peer-reviewed journal articles published between January 2021 and March 2025.

Initial searches returned 312 unique records. After removing duplicates and applying title-abstract screening against four inclusion criteria – (1) peer-reviewed journal articles, (2) English-language publication, (3) focus on digital or social media influencers, and (4) explicit engagement with PSR or closely related constructs, 62 articles proceeded to full-text review. The final corpus of 20 articles was selected following quality appraisal using a four-criterion checklist: theoretical grounding, methodological rigor, clarity of findings, and relevance to the study's objectives.

Data extraction employed a structured coding matrix capturing: study design, theoretical framework, influencer typology examined, PSR operationalization, key mediating variables, main findings, and implications. Thematic synthesis identified three primary analytical clusters: (A) mechanisms of PSR formation, (B) influencer typology and PSR intensity, and (C) behavioral and psychological outcomes.

Tabel 1. Literature Corpus Profile by Methodology and Research Focus

Methodological Approach	No. of Studies	Dominant Influencer Type	Primary Research Focus
Quantitative (Survey/SEM)	9	Human Media Influencers	PSR → Purchase Intention, Brand Trust
Experimental/Quasi-Experimental	5	Virtual & Human Influencers	PSR Formation, Credibility, Disclosure Effects
Conceptual/Literature Review	3	Cross-typology	Theory Development, PSR Taxonomy
Mixed Methods	2	Micro-influencers, Nano-influencers	PSR Intensity, Well-being Outcomes
Netnography/Content Analysis	1	Virtual Idol Fan Communities	Community Participation, Virtual Proximity

Source: Synthesized from systematic literature review (2025)

RESULTS AND DISCUSSION

This section presents and discusses the findings gathered from the systematic review of the literature. Specifically, the analysis begins by examining the foundational dynamics of audience engagement with AI-driven personas.

A. Mechanisms of Parasocial Relationship Formation with Digital Influencers

The reviewed literature converges on six primary mechanisms through which audiences form parasocial relationships with digital influencers. Understanding these mechanisms is essential for both communication theorists and practitioners managing influencer relationships at scale.

Source credibility consistently appears as the most frequently studied antecedent of parasocial relationship (PSR) formation across the literature. For example, Garg and Bakshi (2024) report that, among beauty vloggers, perceived expertise, trustworthiness, and physical attractiveness together explain a substantial portion of variance in parasocial interaction (PSI) strength—accounting for roughly 61%, which underscores how multidimensional credibility fuels followers' sense of connection. Leite and Baptista (2021) replicate and extend this result across a broader influencer sample, showing that credibility perceptions operate as a key mediator between influencer self-disclosure and consequential behavioral outcomes: their models yield strong standardized effects for brand trust ($\beta = 0.71$) and purchase intention ($\beta = 0.64$), indicating that when followers judge an influencer as credible, they are much more likely to accept recommendations and translate parasocial feelings into action.

Self-disclosure emerges as the communicative mechanism most directly responsible for producing the felt intimacy at the core of parasocial experience. Building on basic disclosure theory, Aw and Chuah (2021) introduce a theoretically important refinement by demonstrating that follower self-discrepancy moderates this effect: the impact of an influencer's personal revelations on PSR strength depends on how followers relate those disclosures to their own self-concepts. Specifically, followers who perceive a large gap between their actual selves and an influencer's idealized persona tend to form weaker PSRs, a pattern that has practical implications for brands selecting endorsers whose aspirational image aligns with target audiences rather than alienating them.

Social presence, the extent to which an influencer is perceived as a real, embodied interlocutor through the medium, also plays a central role in PSR dynamics. Kim (2021), using a two-wave longitudinal study on Instagram users, finds that social presence predicts the maintenance of PSRs over time, not merely their initial formation. Features that convey immediacy and responsiveness (for example, ephemeral stories, live streaming with chat, and direct-message replies) therefore function to sustain parasocial bonds by continuously signaling relational availability. This finding mirrors Su et al. (2021), who show that influencers operating as reference groups draw persuasive power largely from intimacy generated through high-presence content formats.

Trust, conceptually distinct from credibility though closely related, constitutes the affective core of many parasocial ties. Bhattacharya (2022) uses structural equation modelling to demonstrate that parasocial

interaction mediates the effect of perceived influencer authenticity on follower trust, with a notably large path coefficient ($\beta = 0.79$), indicating that authenticity breeds PSR which in turn builds trust. Liu and Zheng (2024) extend this chain to brand outcomes, documenting a sequential mediation pathway in which PSR leads to enhanced perceptions of brand credibility, which then consolidates brand trust and ultimately increases purchase intention. Together, these findings map a coherent causal sequence, from credibility and self-disclosure through social presence and parasocial engagement to trust and concrete consumer behaviors, highlighting both the persuasive power of influencers and the ethical considerations this power entails for platforms, creators, and marketers.

Figure 1. Parasocial Relationship Strength and Purchase Intention by Influencer Type

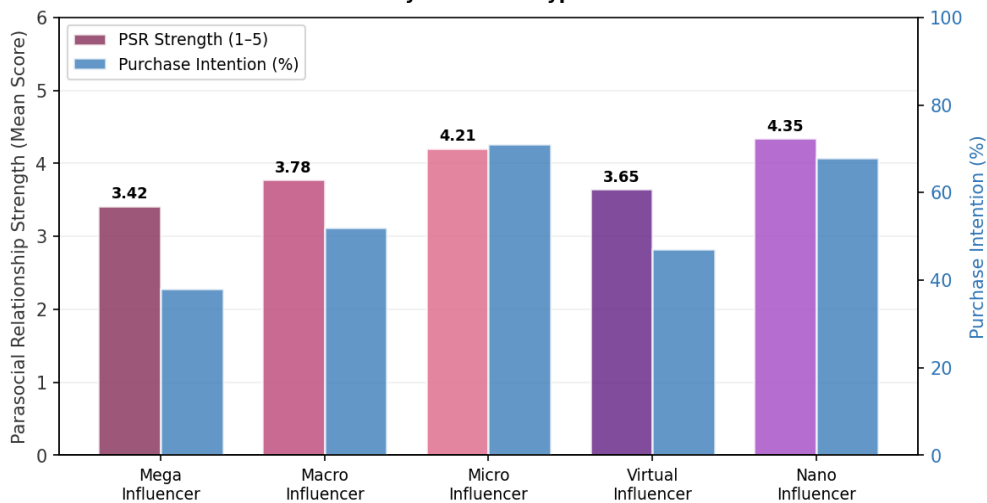


Figure 1. Parasocial Relationship Strength and Purchase Intention by Influencer Type

Figure 1 illustrates a clear inverse relationship between influencer scale and PSR intensity, with nano-influencers (mean PSR score = 4.35) generating the strongest parasocial bonds, a pattern consistent across Conde and Casais (2023), Ashraf et al. (2023), and Joshi et al. (2023). The co-representation of purchase intention confirms the commercial relevance of these relational differences.

B. Virtual Influencers and the Parasocial Frontier

The entry of AI-generated virtual influencers into the social media ecosystem has introduced both a theoretical challenge and an empirical testing ground for PSR theory. The central question has received a nuanced, largely affirmative answer from the literature reviewed.

Stein et al. (2022) conducted a key experimental study comparing PSR formation with real and virtual influencers, finding that perceived similarity moderated the human-likeness effect: participants who identified more strongly with a virtual influencer's aesthetic and

expressed values developed PSR scores statistically equivalent to those observed with human influencers. This challenges assumptions that biological humanity is a prerequisite for parasocial bonding and suggests that identity-based similarity cues can compensate for the uncanny valley effect.

Liu and Wang (2025) extended this inquiry by examining the role of anthropomorphism and attributed autonomy in PSR formation with virtual influencers. Their multigroup comparison revealed that followers who attributed greater autonomous decision-making capacity to virtual influencers, perceiving them as having genuine preferences and personality, reported significantly stronger PSRs ($\beta = 0.68$). This finding connects to broader theoretical debates about the nature of mind perception in human-technology interaction.

Lim and Lee (2023) introduced origin disclosure as a moderating variable, finding that when audiences are explicitly informed of a virtual influencer's non-human nature, credibility scores initially decline, but that this effect is attenuated when the influencer's content includes emotional narratives that resonate with followers' personal experiences. The implication is that transparency about artificiality does not necessarily preclude PSR formation; what matters is the perceived authenticity of expressed experience, not the ontological status of the expresser.

Liu (2023) examined the unique context of virtual idol fan communities in East Asian digital culture, finding that community membership and co-creative engagement with virtual personas amplify PSR formation beyond what individual content consumption alone generates. This points to an important social dimension of virtual PSR: fan communities institutionalize and reinforce individual parasocial bonds, creating self-sustaining relational ecosystems around virtual influencer personas.

Tabel 2. Comparison of Parasocial Relationship Characteristics: Human vs. Virtual Influencers

PSR Dimension	Human Influencers	Virtual Influencers	Key Study
Perceived Authenticity	High – grounded in lived experience and vulnerability	Variable – depends on narrative depth & anthropomorphism	Lim & Lee (2023)
Source Credibility	Driven by expertise, trustworthiness, attractiveness	Initial credibility deficit, recoverable via emotional content	Stein et al. (2022)

Perceived Similarity	Demographic, lifestyle, and value congruence	Aesthetic and identity similarity supplants biographical similarity	Liu & Wang (2025)
PSR Intensity	Stronger for micro/nano; weaker for mega-influencers	Comparable to micro-influencers when anthropomorphism is high	Conde & Casais (2023)
PSR Dimension	Human Influencers	Virtual Influencers	Key Study
Well-being Effects	Mixed: can enhance or undermine self-esteem depending on comparison direction	Largely unexplored; potential upward social comparison concerns	Hoffner & Bond (2022)
Commercial Impact	Robust PSR-to-purchase-intention pathway well-documented	Emerging evidence suggests comparable commercial efficacy	Lou et al. (2022)

Source: Synthesized from literature review (2025)

C. Behavioral and Psychological Outcomes of PSR with Digital Influencers

The downstream consequences of PSRs with digital influencers span three principal domains: consumer behavior, psychological well-being, and persuasion resistance. Understanding the interplay among these outcome dimensions is crucial for a comprehensive assessment of PSR's societal significance.

Consumer behavioral outcomes represent the most extensively researched domain. Lee and Lee (2021) examined beauty YouTube channels, finding that PSI predicted vicarious learning experiences, which in turn drove purchase intention ($\beta = 0.62$). This indirect pathway suggests that the informational function of PSR operates alongside its affective function. Ashraf et al. (2023) corroborated these findings in a cross-cultural comparative study, demonstrating that the PSR-to-purchase-intention pathway was significantly stronger in collectivist cultural contexts, where parasocial bonds more readily activate in-group referent norms.

The role of advertising disclosure in moderating PSR effects received important empirical attention from Breves et al. (2021). Their experimental study found that while explicit sponsorship disclosures modestly reduced followers' processing fluency, strong pre-existing PSRs served as a buffering mechanism: followers with high PSR strength were significantly less likely to resist sponsored content, suggesting that

parasocial intimacy can function as a persuasion knowledge suppressor. This finding has direct regulatory implications, as it implies that disclosure requirements may be insufficient to protect consumers with deep PSR investments in an influencer.

Psychological well-being effects of PSRs are more ambivalent. Hoffner and Bond's (2022) review integrating evidence from 40+ studies concluded that PSRs can fulfill genuine social needs and thus carry positive well-being valences. However, when PSRs are characterized by upward social comparison with idealized influencer self-presentations, they can engender body dissatisfaction, reduced self-esteem, and envy. Aw and Chuah's (2021) self-discrepancy framework provides a mechanism for this: followers whose actual-ideal self gap is large experience PSRs with aspirational influencers as simultaneously motivating and distressing.

Um (2023) found that among college students, virtual influencer advertising effects were more pronounced for individuals with high social media engagement and lower need for cognition, suggesting differential vulnerability to PSR-mediated persuasion. This segmentation finding has significant implications for targeted marketing ethics and platform governance.

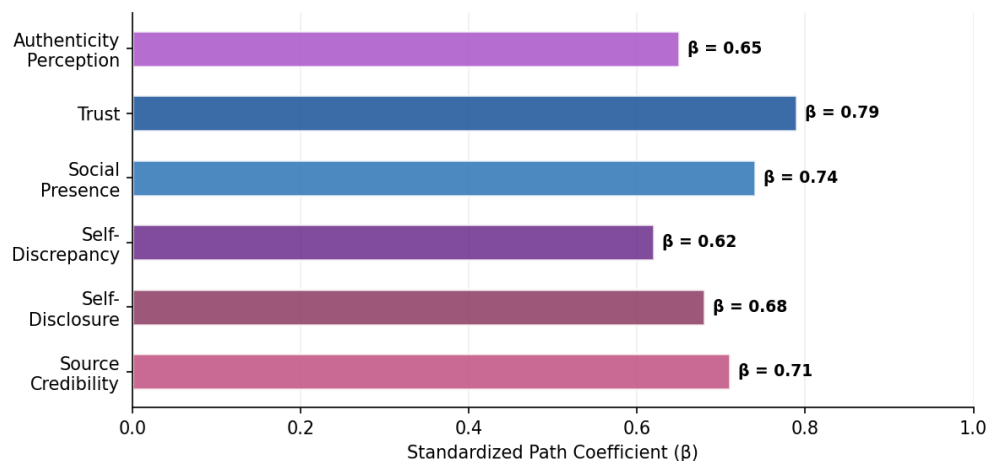


Figure 2. Key Mediating Mechanisms Linking Parasocial Relationships to Consumer Behavioral Outcomes

Figure 2. presents the relative strength of six identified mediators through their standardized path coefficients (β). Trust ($\beta = 0.79$) and social presence ($\beta = 0.74$) emerge as the most powerful relational bridges between PSR formation and downstream behavioral outcomes, underscoring the primacy of affective and co-presence dynamics in the influencer-follower bond.

D. The Integrative Digital Parasocial Model (IDPM)

Synthesizing findings across the three analytical clusters, this study proposes the Integrative Digital Parasocial Model (IDPM) as a theoretical

framework for understanding PSR dynamics in the digital influencer ecosystem. The IDPM is organized across three sequential layers.

The first layer, Antecedent Inputs, captures the characteristics of influencer content and persona that initiate PSR formation: content intimacy (degree of self-disclosure), perceived authenticity, aesthetic-identity similarity, and platform affordances for social presence. These inputs are processed differently depending on whether the influencer is human or virtual, with anthropomorphism and attributed autonomy playing compensatory roles for virtual personas (Liu & Wang, 2025; Lim & Lee, 2023).

The second layer, Relational Mediators, encompasses the six identified mechanisms, source credibility, self-disclosure reciprocity, self-discrepancy calibration, social presence, trust, and authenticity perception, that transform content exposure into sustained parasocial bonding. The IDPM treats these mediators as interactive rather than independent: trust amplifies the effect of credibility; social presence potentiates the impact of self-disclosure; authenticity perception moderates the role of origin (human vs. virtual) in determining PSR trajectory.

The third layer, Behavioral and Psychological Outcomes, maps the well-documented downstream effects: purchase intention, brand trust transfer, persuasion acceptance/resistance, and well-being impacts. The IDPM introduces a feedback loop in which well-being outcomes, particularly self-esteem and social comparison effects, recursively influence the follower's motivation to maintain or disengage from the PSR, a dynamic neglected in prior linear frameworks.

Tabel 3. Integrative Digital Parasocial Model (IDPM): Layers, Mechanisms, and Practical Implications

IDPM Layer	Key Construct	Influencer Strategy	Platform/Brand Implication
Antecedent Inputs	Content intimacy, authenticity, similarity, platform affordances	Design content that audience concept; optimize for interactive features	Prioritize micro-influencer partnerships for depth of PSR; invest in high-presence formats
Relational Mediators	Credibility, self-disclosure, social presence, trust, authenticity, self-discrepancy	Maintain consistent persona; disclose sponsored content strategically; engage	Develop transparent disclosure policies; monitor PSR health metrics; provide

		parasocially through DMs and live streams	authenticity signals for virtual influencers
Behavioral Outcomes	Purchase intention, brand trust transfer, persuasion acceptance	Align product endorsements with influencer's established value narrative to maximize PSR-to-purchase pathway	Measure campaign effectiveness with PSR-sensitive KPIs beyond reach and impressions
Psychological Outcomes	Well-being, self-esteem, social comparison, loneliness buffering	Avoid idealized self-presentation that amplifies follower actual-ideal self gaps; include vulnerability content	Implement algorithmic safeguards against disproportionate upward-comparison content exposure
Feedback Loop	Well-being outcomes → PSR maintenance / disengagement motivation	Monitor audience sentiment and engagement trajectory to detect parasocial fatigue or disenchantment signals	Develop follower-facing PSR literacy tools to support healthy engagement patterns

Source: Developed from systematic literature review, adapted from Lou (2021), Hoffner & Bond (2022), Liu & Wang (2025)

CONCLUSION

This study has demonstrated that parasocial communication with digital influencers is a theoretically rich and practically consequential phenomenon, mediated by six identified relational mechanisms and producing differentiated behavioral and psychological outcomes across influencer typologies. The entry of virtual influencers expands rather than disrupts PSR theory, revealing that perceived similarity and anthropomorphic attribution can substitute for biological humanity in generating parasocial bonds. The proposed IDPM offers a three-layer framework for researchers and practitioners navigating the increasingly complex influencer ecosystem. Future research should empirically test the IDPM's feedback loop using longitudinal designs, and attend to cross-cultural moderators and platform-specific affordances that the present review could not fully capture.

REFERENCE

- Ashraf, A., Hameed, I., & Saeed, S. (2023). How do social media influencers inspire consumers' purchase decisions? The mediating role of parasocial relationships. *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12917>
- Aw, E. C.-X., & Chuah, S. H.-W. (2021). "Stop the unattainable ideal for an ordinary me!" Fostering parasocial relationships with social media influencers: The role of self-discrepancy. *Journal of Business Research*, 132, 146–157. <https://doi.org/10.1016/j.jbusres.2021.04.025>
- Bhattacharya, A. (2022). Parasocial interaction in social media influencer-based marketing: An SEM approach. *Journal of Internet Commerce*, 22(2), 272–292. <https://doi.org/10.1080/15332861.2022.2049112>
- Breves, P., Amrehn, J., Heidenreich, A., Liebers, N., & Schramm, H. (2021). Blind trust? The importance and interplay of parasocial relationships and advertising disclosures in explaining influencers' persuasive effects on their followers. *International Journal of Advertising*, 40(8), 1209–1229. <https://doi.org/10.1080/02650487.2021.1881237>
- Conde, R., & Casais, B. (2023). Micro, macro and mega-influencers on Instagram: The power of persuasion via the parasocial relationship. *Journal of Business Research*, 165, 113708. <https://doi.org/10.1016/j.jbusres.2023.113708>
- Garg, M., & Bakshi, A. (2024). Exploring the impact of beauty vloggers' credible attributes, parasocial interaction, and trust on consumer purchase intention in influencer marketing. *Humanities and Social Sciences Communications*, 11, 1–14. <https://doi.org/10.1057/s41599-024-02760-9>
- Hoffner, C., & Bond, B. (2022). Parasocial relationships, social media, & well-being. *Current Opinion in Psychology*, 45, 101306. <https://doi.org/10.1016/j.copsyc.2022.101306>
- Joshi, Y., Lim, W. M., Jagani, K., & Kumar, S. (2023). Social media influencer marketing: Foundations, trends, and ways forward. *Electronic Commerce Research*, 1–55. <https://doi.org/10.1007/s10660-023-09719-z>
- Kim, H. (2021). Keeping up with influencers: Exploring the impact of social presence and parasocial interactions on Instagram. *International Journal of Advertising*, 41(3), 414–434. <https://doi.org/10.1080/02650487.2021.1886477>
- Lee, M., & Lee, H.-H. (2021). Do parasocial interactions and vicarious experiences in the beauty YouTube channels promote consumer purchase intention? *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12667>
- Leite, F. P., & De Paula Baptista, P. (2021). The effects of social media influencers' self-disclosure on behavioral intentions: The role of source credibility, parasocial relationships, and brand trust. *Journal of Marketing Theory and Practice*, 30(3), 295–311. <https://doi.org/10.1080/10696679.2021.1935275>
- Lim, R., & Lee, S. (2023). "You are a virtual influencer!": Understanding the impact of origin disclosure and emotional narratives on parasocial relationships and

- virtual influencer credibility. *Computers in Human Behavior*, 148, 107897. <https://doi.org/10.1016/j.chb.2023.107897>
- Liu, F., & Wang, R. (2025). Fostering parasocial relationships with virtual influencers in the uncanny valley: Anthropomorphism, autonomy, and a multigroup comparison. *Journal of Business Research*, 188, 115024. <https://doi.org/10.1016/j.jbusres.2024.115024>
- Liu, J. (2023). Virtual presence, real connections: Exploring the role of parasocial relationships in virtual idol fan community participation. *Global Media and China*, 10(4), 490–511. <https://doi.org/10.1177/20594364231222976>
- Liu, X., & Zheng, X. (2024). The persuasive power of social media influencers in brand credibility and purchase intention. *Humanities and Social Sciences Communications*, 11, 1–12. <https://doi.org/10.1057/s41599-023-02512-1>
- Lou, C. (2021). Social media influencers and followers: Theorization of a trans-parasocial relation and explication of its implications for influencer advertising. *Journal of Advertising*, 51(1), 4–21. <https://doi.org/10.1080/00913367.2021.1880345>
- Lou, C., Kiew, S. T. J., Chen, T., Lee, T. Y. R., Ong, J. E. C., & Phua, Z. (2022). Authentically fake? How consumers respond to the influence of virtual influencers. *Journal of Advertising*, 52(4), 540–557. <https://doi.org/10.1080/00913367.2022.2149641>
- Stein, J.-P., Breves, P. L., & Anders, N. (2022). Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness. *New Media & Society*, 26(7), 3433–3453. <https://doi.org/10.1177/14614448221102900>
- Su, B.-C., Wu, L.-W., Chang, Y., & Hong, R.-H. (2021). Influencers on social media as references: Understanding the importance of parasocial relationships. *Sustainability*, 13(19), 10919. <https://doi.org/10.3390/su131910919>
- Um, N. (2023). Predictors affecting effects of virtual influencer advertising among college students. *Sustainability*, 15(8), 6388. <https://doi.org/10.3390/su15086388>