HUMAN OR VIRTUAL: HOW THE ATTRIBUTES SHAPE THE CONSUMER ATTITUDE

Rupa Rathee ¹, Manjeet ²

- ¹ Department of Management Studies, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India, 131001
- ² Department of Management Studies, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India, 131001





Corresponding Author

Rupa Rathee, Ruparathee18@gmail.com

10.29121/shodhkosh.v5.i4.2024.332

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Copyright: © 2024 The Author(s). This work is licensed under a Creative Commons Attribution 4.0 International License.

With the license CC-BY, authors retain the copyright, allowing anyone to download, reuse, re-print, modify, distribute, and/or copy their contribution. The work must be properly attributed to its author.



ABSTRACT

Traditional influencer marketing occurs when someone has a social media profile that sets them apart from other "common" users due to their number of followers. However, virtual influencers are computer-generated imaginary figures with profiles that mimic the content created and shared by real influencers and significantly impact social media users. This study provides more clarity about the concept of different kinds of influencers. The purpose of the paper is to conceptualize the terms human influencer and virtual influencer. It also compares brands' benefits and risks when using virtual influencers instead of human influencers to promote their products. This article presents the environment of human and virtual influencer marketing by drawing on the literature on influencer marketing and consumer-technology interactions. The study helps in identifying the main attributes that must be present in a virtual influencer. It helps brands choose a virtual influencer on behalf of the presence and absence of these attributes. These attributes also play a vital role for all those brands and companies who want to develop their virtual influencer to promote their products. It is also essential to identify the degree to which these attributes are present in an influencer because excess can also adversely affect a consumer's attitude.

Keywords: Human Influencer, Virtual Influencer, Consumers, Followers, Social Media

1. INTRODUCTION

While traditional marketing involves placing advertisements in print media such as TV and magazines, contemporary marketing tactics emphasize digital content produced for social media platforms like Facebook, Instagram, and YouTube, where users spend most of their free time. Social media platforms have made it easier for influencers to gain popularity and impact the purchasing decisions of their peer audience. It has also made it easier for users to commence social media commercial activities (Wu et al., 2022). Influencer marketing is a valuable strategy for new or potential customers (Piriyakul & Piriyakul, 2021). Influencers are content producers who draw a lot of attention from users on social media platforms (Cocker et al., 2021; Leung et al., 2022). As essential stakeholders in marketing initiatives, social media influencers work with brands more frequently. Genuine conversations enhance the followers' emotional bond with the influencer and significantly impact consumers' trust in brands (Jun & Yi, 2020). Consumers perceive influencers as experts on specific topics for which they create content like fashion, lifestyle, makeup, and more

(Audrezet et al., 2020). Customers perceive the source as trustworthy and have a more positive perception of the endorsed product when customers observe Instagram celebrity brand posts (Jin et al., 2019). Consumers' propensity to see the influencer brand review as advertising decreased when presented with a fairness disclosure instead of a straightforward sponsorship disclosure or when no sponsorship information was given (Stubb & Colliander, 2019). Influencers can communicate, create strong connections with followers, and influence their purchase decisions (Penttinen et al., 2022). Human influencers are famous on social media platforms, and they have followers with whom they share their real-life experiences and reviews about different kinds of products (De Veirman et al., 2019). Recent technological advancements have made it more frequent for customers to communicate with non-human characters like service robots and digital agents (Miao et al., 2022). Digital characters created by computers that gain attraction on social media sites are known as virtual influencers. A group of individuals creates them and gives them a human-like personality (Lewczyk, 2021). From the viewpoint of social media users, virtual influencers share their personal lives and experiences, engage with their followers, and closely mimic human physical characteristics, just like real influencers (Moustakas et al., 2020).

2. REVIEW OF LITERATURE

Human Influencer

An "influencer" is a person who is a content creator with subject-matter expertise who has a sizable following on social media by posting insightful and original content that may be useful to customers (Lou & Yuan, 2019). Traditionally, companies work with real-life influencers, or people physically present in the world, to create views about the goods and services they promote and make their own decisions about sponsored collaborations (Schouten et al., 2020). The companies frequently hire celebrities from the entertainment, sports, and public spheres to collaborate on endorsement projects for traditional mass media outlets, including television, newspapers, and magazines. Over the past ten years, as social media usage, like Facebook and Instagram, has increased, social media influencers have become more well-known (Lou & Yuan, 2019). Human influencers are famous on social media platforms, and they have followers with whom they share their real-life experiences and reviews about different kinds of products (De Veirman et al., 2019). The followers perceive the influencers as experts whenever they post something on social media platforms (Schouten et al., 2020). Moreover, by exposing details of their daily life, human influencers became more natural and organic from the follower's point of view (Lueck, 2015). It helps strengthen the influencer's relationship with the followers, and as a result, followers view human influencers as approachable and personal (Meyers, 2017). Regular interaction of influencers with their followers also helps in building "parasocial relationships" (De Veirman et al., 2017). The term "parasocial relationship" (PSR) was first used to describe the fictitious, one-sided attachment that viewers have to digital characters or media personalities like celebrities and other social media influencers (Horton & Wohl, 1956). As a result, even though interactions with human influencers are typically one-way, followers treat them like friends and treat their interactions as if they were in-person talks (Knoll et al., 2015).

Virtual Influencer

Recent technological advancements have made it more frequent for customers to communicate with non-human characters like service robots and digital agents (Miao et al., 2022). Companies collaborate with virtual influencers also in addition to real-life influencers. Virtual influencers are online personas linked to specific social media accounts run by companies, digital agencies, or private citizens (Sands et al., 2022). Virtual influencers can interact and build relationships with many consumers on social media like human influencers (Hugh et al., 2022). Virtual influencers come in various shapes and sizes; some look like cartoons, and some look like almost humans as realistic human influencers (Aggarwal & McGill, 2007). Influencers that operate virtually and those that operate in person are almost similar. However, virtual influencers are not constrained by illness, old age, or other physiological issues that affect their natural counterparts because of their digital nature. Virtually, avatars are digital human avatars that exhibit a high level of both form and behavioral realism, where the form is related to outer appearance and behavior is related to intelligence (Miao et al., 2022). Because virtual influencers are becoming increasingly popular as marketing tools, the idea of virtual influencers has received much attention in management and marketing literature (Sands et al., 2022). Although virtual influencers have been around for a while, their increasing appeal and capacity to captivate audiences have given them much attention in the last few years. These influencers have been carefully created to transcend all human shortcomings and limitations. Consequently, as compared to real influencers on social media, virtual influencers have had a more pronounced and apparent online presence (Conti et al., 2022). Despite their recent prominence, virtual influencers have

gained a substantial social media following, making them desirable substitutes for real influencers in marketing campaigns (Ozdemir et al., 2023). They are available for brands anytime and anywhere since they are not restricted by time or location (Appel et al., 2020; Moustakas et al., 2020). They are wholly under the creators' control, allowing them to customize their behavior carefully, and are essential to match a brand's goals and beliefs (Lou et al., 2022). Virtual influencers can promote goods and services, including virtual reality experiences, that might not be suitable for human influencers (Franke et al., 2023). However, there are some limitations, too. For example, virtual influencers are not real people with actual experiences. Hence, they lack credibility and authenticity. Virtual influencers can potentially worsen the already severe issue of unattainable beauty standards and further consumerism and materialism in society. (Arsenyan & Mirowska, 2021). Using this idea in virtual influencers, it can be said that too-human-looking virtual influencers could cause customers to have unfavorable emotional reactions, which could reduce the ability of virtual influencers to advertise effectively compared to real-life human influencers (Rheu et al., 2023). When people come into contact with or interact with highly humanlike virtual influencers, they may feel uneasiness (Lou et al., 2022; Stein et al., 2022). The uncanny valley encountered by highly humanlike virtual influencers can probably act as a psychological barrier to developing a parasocial bond with the humanlike virtual influencers, which would have a detrimental effect on perceptions of humanlike virtual influencers' featured promotional advertisement (Rheu et al., 2023).

Table 1: Comparison table of benefits and risks from Virtual Influencer

Comparison table of benefits and risks from Virtual Influencer	
Benefits	Risks
Virtual influencers are computer-generated 3D digital characters that build engagement and trust in the young generation. It helps in building connections with tech-savvy and digitally native audiences.	Virtual influencers are not considered to be authentic and realistic. Because it is evident that they cannot use any product or service, they cannot endorse the products.
Virtual influencers mainly follow a single theme that suits their style, and they can influence consumers better in niche segments.	Virtual influencers set an unattainable fashion and lifestyle the young generation wants to follow.
There are many benefits for brands of virtual influencers, including the easy availability of virtual influencers anytime and anywhere, a huge fanbase, and high engagement.	Somehow, virtual influencers look like humans, but there is a lack of emotions they can never match because they are created and managed by technical teams.
Virtual influencers are cost-saving for brands because brands do not need to arrange makeup artists, locations, studio space, etc., and also no need to travel to a particular place due to virtuality.	It is difficult for each brand to create or hire a virtual influencer because it is expensive.
Brands have control over virtual influencers, which helps a brand lower the risk of controversy, as presented in human influencers.	Brands have direct or indirect control over virtual influencers, which can cause a lack of trust and credibility in the minds of consumers.

Source: Author's Compilation with the help of study by (Bansal & Pruthi, 2023)

Attributes that shape the attitude of Consumers:

Attributes refer to those specific features that are present in a virtual influencer; then, it will be helpful for a brand to endorse its products. These attributes are essential to identifying a brand that can help choose a perfect virtual influencer. The brands should consider some points when choosing an influencer as their endorser, like their engagement level with the customer, anthropomorphic level, and controlling level. However, it is also essential to identify the extent to which these attributes must be present because excess of these can harm the endorsement strategies.

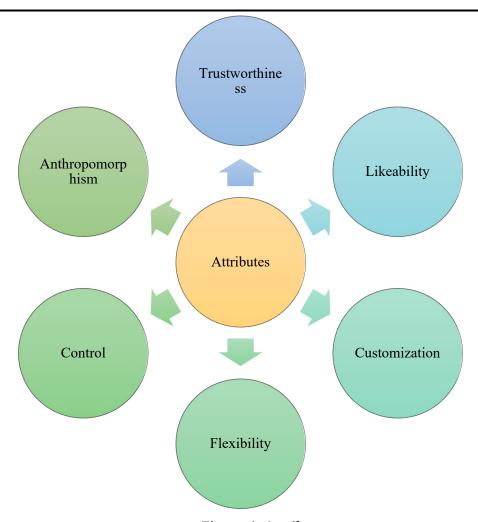


Figure 1: Attributes
Source: Author's Compilation

Anthropomorphism:

Anthropomorphism is the propensity to impart a digital character with human traits, feelings, and intentions (Epley et al., 2007). Anthropomorphism is the degree to which digital characters who are not human resemble real people regarding appearance and behavior. "Anthropomorphism" describes attributing human form, traits, or behavior to nonhuman entities like computers, robots, and animals (Bartneck et al., 2009). Creating an anthropomorphic humancomputer interface aims to improve the user experience by facilitating human connection with the system. Because there would otherwise be no genuine and emotional relationship between a piece of hardware or software, these features help consumers feel at ease using technology (Moriuchi, 2020). There have been discussions on the function of anthropomorphism in various marketing communications contexts. The researchers demonstrate that anthropomorphism raises brand preference and purchase intents (Hudson et al., 2016; Triantos et al., 2020). The degree of anthropomorphism attributed to virtual characters advances beyond the realism of appearance and behavior. The degree to which virtual characters physically and visually resemble people is known as form realism. However, behavioral realism describes how much they behave like people and are considered socially advanced (Miao et al., 2022). Virtual influencers with a solid human image are seen as more approachable by customers and possess a strong social media presence. High levels of anthropomorphism in virtual influencers directly impact the intention to interact with other factors like likeability, credibility, and attractiveness (Verhagen et al., 2014). However, the "uncanny valley" theory holds that when a digital character's appearance and movements become more humanlike, a human's emotional response to it becomes more positive and empathic until a certain point, beyond which the response quickly turns into one of intense repulsion. However, when the appearance and movements resemble a human's, the emotional reaction

turns positive again and gets close to human-to-human empathy levels (Bartneck et al., 2009). According to a study, when humans interact with anthropomorphic creatures, they treat them like social entities and adhere to social standards (Aggarwal & McGill, 2007). Even though anthropomorphism differs across robots, virtual assistants, and other AI agents, people generally have positive sentiments toward the human category and its members, and these technologies introduce nonhuman things into the human world (Rauschnabel & Ahuvia, 2014). A digital character may be unable to live up to expectations even if it has a highly anthropomorphic appearance.

Trustworthiness:

Every marketing campaign aims to create a favorable perception of the advertisement and brand. Previous research has concentrated on how the persuasiveness and personal qualities of the influencer affect the campaigns' overall efficacy (Gerlich, 2023). The credibility of a source is reliant upon its level of "trustworthiness" and "expertise." The efficacy of a marketing campaign and the choice to buy are significantly influenced by the recipient's assessment of the credibility of the information source. (Hovland et al., 1953). Expertise refers to the degree to which a person can communicate trustworthy information on a particular subject, which is their level of competence (La Ferle & Choj. 2005). Trustworthiness is the degree of faith and confidence of the audience in the endorser at the time of message delivery (Amelina & Zhu, 2016). Sincerity, honesty, and truthfulness are associated with trustworthiness (Munnukka et al., 2016). Building trust is a useful strategy for reducing danger and uncertainty (Han & Hyun, 2013). Trust in an influencer positively affects consumers' attitudes towards products and brands (Schouten et al., 2021). Because of the control of businesses and agencies over virtual influencers, their goals, and motivations appear less apparent (Hudders et al., 2021). Virtual influencers are less trustworthy in comparison to human influencers (Sands et al., 2022; Arsenyan & Mirowska, 2021). Virtual influencers are not as good as human influencers at fostering a favorable attitude toward brands. For their brand endorsements to be deemed credible, virtual influencers must have trustworthiness features comparable to those of their human counterparts. However, the sharing of posts by virtual influencers about their daily lives as if they were genuinely alive and conscious contradicts their digital-only existence, which could damage their perceived credibility with customers (Ozdemir et al., 2023).

Likeability:

Individuals with physical beauty are perceived as more intelligent and socially adept than those without it (Eagly et al., 1991). Visually appealing people are considered more intelligent, driven, determined, and logical than those who are not (Ahearne et al., 1999). It is anticipated that the higher beauty of an influencer boosts the company's performance (Holzwarth et al., 2006). Accordingly, likeability has been defined in the literature as a virtue associated with empathy that an actual or virtuous person can possess and that may also be crucial in persuading others (Chavez & Lopez, 2020). When participation rises from a low to a moderate level, an influencer's attractiveness will improve its persuasiveness; however, when involvement rises from a moderate to a high degree, it will have less impact (Holzwarth et al., 2006). Likable influencers significantly boost online transactions. As we can see, likeability and empathy are strongly related. Empathy has always been crucial in the sales industry when determining a sale (Chavez & Lopez, 2020). When an advertiser uses an appealing character to establish empathy with the online customer, the seller's reputation with the customer improves. Perceptions deteriorate if there are no fictional characters or if they are badly created (Alves & Soares).

Customization:

Virtual influencer customization allows them to choose and alter every aspect of their online persona freely. For example, it is possible to construct virtual influencers with a specific physical look, such as skin tone, height, and weight, which can be changed according to the choice of the developer (Mustak et al., 2022; Sands et al., 2022). Virtual influencers can be linked to geolocations, background narratives, and behaviors such as preferences, beliefs, and views (Conti et al., 2022). The creators and managers of virtual influencers can choose any content for their influencers to distribute, perhaps elevating them to experts or thought leaders on specific subjects like fashion and travel (Guthrie, 2020). Customization allows the creation of virtual influencers with characteristics that appeal to particular target audiences or match the promoted brands' principles and brand image (Thomas & Fowler, 2021; Conti et al., 2022). Virtual influencers may be created to appeal to adolescent females with an affection for makeup or to serve as spokespersons for companies that encourage environmentally friendly consumption practices. Notably, virtual influencers' behaviors and outward looks can vary over time to reflect shifting customer preferences and shifts in market trends. However, there are some negative points regarding customization.

The influencers 'outward appearance can create unrealistic depictions of the beauty standards in society, such as perfect skin and a slender body image (Guthrie, 2020). A particular issue with false representations of beauty standards is that they may make it harder for customers to identify the difference between real and virtual influencers (Franke et al., 2023). Customers compare themselves to non-human entities without even realizing it. Furthermore, false impressions of society may be produced by the content shared by virtual influencers and their backstories. For instance, just like real-life influencers, those in cyberspace may present a lavish lifestyle that is out of reach for most customers (Conti et al., 2022). There are also severe worries about virtual influencers' potentially objectionable or misleading positions on societal issues. For instance, through their shared social media posts, virtual influencers may advocate for immoral causes like racism and violence (Conti et al., 2022; Mustak et al., 2022).

Flexibility:

Utilizing virtual influencers necessitates a great degree of adaptability. The limits of real-life influencers do not apply to virtual influencers due to their digital nature. For instance, virtual influencers never become sick, tired, or hungry (Appel et al., 2020). Furthermore, these digital influencers are not limited to a particular geographic area; they can be situated on another planet or in a fictitious universe called the metaverse. As a result, virtual influencers can do any task and be anywhere at any time (Conti et al., 2022). Compared to working with real-life influencers, marketing collaborations with virtual personalities should require less time and money for things like travel, makeup artists, etc. (Arsenyan & Mirowska, 2021; Sands et al., 2022). Additionally, virtual influencers are digital, readily adapting to other digital platforms outside social media, such as the metaverse. This implies that users can converse concurrently with a particular virtual influencer on several digital platforms and venues (Sands et al., 2022).

But, similar to real-life influencers, consumers may feel frightened or suffer from FOMO when they observe how frequently virtual influencers travel and how many events they have attended. However, if virtual influencers display unrealistic and extremely adaptable behaviors, people treat them more like machines than thought leaders (Miao et al., 2022). Virtual influencers can appear less genuine and relatable, which could be detrimental to the effectiveness of virtual influencer marketing initiatives (Hugh et al., 2022; Schouten et al., 2022).

Control:

The companies that build up virtual influencers are media firms, AI agencies, and people with computer graphics and AI expertise. Brands or their original creators can control virtual influencers after they are formed (Conti et al., 2022; Mustak et al., 2022). Like real-life influencers, creator-owned virtual influencers work with multiple brands, whereas brand-owned influencers exclusively support one or more brands (de Brito Silva et al., 2022). Virtual influencer ownership entails a high degree of control, which is crucial for maintaining the reputations of these influencers and the brands they are connected with (Thomas & Fowler, 2021). Dealing with virtual influencers has less danger of being involved in scandals and unethical behavior than dealing with real-life influencers (Guthrie, 2020). Nonetheless, companies are becoming more and more interested in owning and building their virtual influencers since this enables brands to ensure that the behaviors, appearances, and stands of these influencers accurately reflect their values and image, even when these brands change (Appel et al., 2020; Sands et al., 2022).

Most crucially, even while virtual influencers are unable to choose to participate in scandals or unethical behavior, their owners can be involved (Mrad et al., 2022; Thomas & Fowler, 2021). Virtual influencer creators, like AI and media agencies, may act unethically, reflecting on the influencers they control and, in turn, on the corporations collaborating with them (Sands et al., 2022). Virtual influencer owners can remain anonymous, which could be problematic because it allows them to act unethically (e.g., deliberately disseminate false information) through their influencers without being detected or penalized. Furthermore, the legitimacy and veracity of the suggestions offered by these influencers are very dubious because there may be significant discrepancies between the owner and the virtual influencer's behavior and appearance due to a specific interest (Lou et al., 2023).

3. FINDINGS AND DISCUSSION

Virtual influencer marketing is a relatively new and well-liked trend in social media marketing, which entails corporate partnerships with digitally generated, non-human characters who gain way over significant consumer bases. Defining and conceptually clarifying virtual influencers in terms of distinct characteristics: anthropomorphism, parasocial relationship, customization, trustworthiness, flexibility, likeability, attractiveness, ownership, etc., extended the body of knowledge already available on virtual influencers by evaluating both real and virtual influencers. The benefits

of using virtual influencers for marketing are discussed in recent review articles, highlighting the need for more studies on people's opinions regarding how effective virtual influencers are at endorsing brands. Companies can use virtual influencers to help them communicate their intended message to the right audiences by designing them to resemble a particular brand image and set of values. Furthermore, because outside forces or personal prejudices do not influence virtual influencers, businesses have greater control over the marketing messages. When deploying digital influencers, this study may lead to adjustments in social media marketing tactics. Virtual influencers can be more affordable than real influencers because contracts do not bind them or need payment. By doing this, businesses can reduce their marketing expenses while using social media to reach a sizable audience. Ultimately, existing scholarly research was combined to present ideas and conclusions with managerial implications and an action plan for the moral use of virtual influencers.

4. SCOPE FOR FUTURE STUDY

Virtual influencers are computer-generated characters who work as influencers on different social media platforms. Brands are also using them because of their benefits, like availability anytime, high engagement level with Gen Z, and anthropomorphic appearance, just like human influencers. With the benefits, some risks are already mentioned in this study. Companies are trying to find the right influencer, whether human or virtual, to persuade customers towards their products and services. It is an emerging topic to study in the future. A limited number of attributes have been discussed here, so in the future, other attributes can also be identified by potential researchers. Further studies can be conducted on the impact of the presence and absence of these attributes on customers' decision-making. This is a conceptual study, so further empirical studies can be conducted by discussing other factors. A comparison can also be conducted between human and virtual influencers and how companies can decide to adopt the right influencer.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

REFERENCES

- Aggarwal, P., & McGill, A. L. (2007). Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphized products. Journal of consumer research, 34(4), 468-479. https://doi.org/10.1086/518544.
- Ahearne, M., Gruen, T. W., & Jarvis, C. B. (1999). If looks could sell: Moderation and mediation of the attractiveness effect on salesperson performance. International Journal of Research in Marketing, 16(4), 269-284.
- Alves, A., & Soares, A. M. (2017). Evaluating the use of Avatars as Sociability Factor in e-commerce. Back to Basics: consumer-centric marketing or target-centric marketing, 194.
- Amelina, D., & Zhu, Y. Q. (2016, June). Investigating Effectiveness of Source Credibility Elements on Social Commerce Endorsement: the Case of Instagram in Indonesia. In PACIS (p. 232).
- Appel, G., Grewal, L., Hadi, R., & Stephen, A. T. (2020). The future of social media in marketing. Journal of the Academy of Marketing Science, 48(1), 79-95. https://doi.org/10.1007/s11747-019-00695-1.
- Arsenyan, J., & Mirowska, A. (2021). Almost human? A comparative case study on the social media presence of virtual influencers. International Journal of Human-Computer Studies, 155(102694). https://doi.org/https://doi.org/10.1016/j.ijhcs.2021.102694
- Audrezet, A., & Koles, B. (2023). Virtual Influencer as a Brand Avatar in Interactive Marketing. In The Palgrave Handbook of Interactive Marketing (pp. 353-376). Cham: Springer International Publishing.
- Bansal, R., & Pruthi, N. (2023). Avatar-Based Influencer Marketing: Demystifying the Benefits and Risks of Marketing Through Virtual Influencers. In Influencer Marketing Applications Within the Metaverse (pp. 78-86). IGI Global.
- Bartneck, C., Kulić, D., Croft, E., & Zoghbi, S. (2009). Measurement instruments for the anthropomorphism, animacy, likeability, perceived intelligence, and perceived safety of robots. International journal of social robotics, 1, 71-81.

- Cocker, H., Mardon, R., & Daunt, K. L. (2021). Social media influencers and transgressive celebrity endorsement in consumption community contexts. European Journal of Marketing, 55(7), 1841-1872. https://doi.org/10.1108/EJM-07-2019 0567.
- Conti, M., Gathani, J., & Tricomi, P. P. (2022). Virtual Influencers in Online Social Media. IEEE Communications Magazine, 60(8), 86-91. https://doi.org/10.1109/MCOM.001.210078
- de Brito Silva, M. J., de Oliveira Ramos Delfino, L., Alves Cerqueira, K., & de Oliveira Campos, P. (2022). Avatar marketing: A study on the engagement and authenticity of virtual influencers on Instagram. Social Network Analysis and Mining, 12(130). https://doi.org/https://doi.org/10.1007/s13278-022-00966-w
- De Veirman, M., Hudders, L., & Nelson, M. R. (2019). What Is Influencer Marketing and How Does It Target Children? A Review and Direction for Future Research. Frontiers in Psychology, 10, 2685-2685. https://doi.org/10.3389/fpsyg.2019.02685
- Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but...: A meta-analytic review of research on the physical attractiveness stereotype. Psychological bulletin, 110(1), 109.
- Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: a three-factor theory of anthropomorphism. Psychological review, 114(4), 864.
- Franke, C., Groeppel-Klein, A., & Müller, K. (2023). Consumers' responses to virtual influencers as advertising endorsers: novel and effective or uncanny and deceiving?. Journal of Advertising, 52(4), 523-539. https://doi.org/10.1080/00913367.2022.2154721
- Gerlich, M. (2023). The Power of Virtual Influencers: Impact on Consumer Behaviour and Attitudes in the Age of AI. Administrative Sciences, 13(8), 178.
- Gonzales-Chávez, M. A., & Vila-Lopez, N. (2021). Designing the best Avatar to reach millennials: gender differences in a restaurant choice. Industrial Management & Data Systems, 121(6), 1216-1236. https://doi.org/10.1108/IMDS-03-2020-0156.
- Guthrie, S. (2020). Virtual influencers: More human than humans. In S. Yesiloglu & J. Costello (Eds.), Influencer Marketing. Building Brand Communities and Engagement (pp. 271- 285). Routledge. https://doi.org/https://doi.org/10.4324/9780429322501
- Han, H., & Hyun, S. S. (2013). Image congruence and relationship quality in predicting switching intention: Conspicuousness of product use as a moderator variable. Journal of Hospitality & Tourism Research, 37(3), 303-329.
- Holzwarth, M., Janiszewski, C., & Neumann, M. M. (2006). The influence of avatars on online consumer shopping behavior. Journal of Marketing, 70(4), 19-36. https://doi.org/10.1509/jmkg.70.4.019.
- Horton, D., & Richard Wohl, R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. psychiatry, 19(3), 215-229. https://doi.org/10.1080/00332747.1956.11023049.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). Communication and persuasion.
- Hudders, L., De Jans, S., & De Veirman, M. (2021). The commercialization of social media stars: a literature review and conceptual framework on the strategic use of social media influencers. International Journal of Advertising, 40(3), 327-375.
- Hudson, S., Matson-Barkat, S., Pallamin, N., & Jegou, G. (2019). With or without you? Interaction and immersion in a virtual reality experience. Journal of Business Research, 100, 459-468. https://doi.org/10.1016/j.jbusres.2018.10.062
- Hugh, D. C., Dolan, R., Harrigan, P., & Gray, H. (2022). Influencer marketing effectiveness: The mechanisms that matter. European Journal of Marketing, 56(12), 3485-3515. https://doi.org/https://doi.org/10.1108/EJM-09-2020-0703
- Jin, S. V., Muqaddam, A., & Ryu, E. (2019). Instafamous and social media influencer marketing. Marketing Intelligence & Planning, 37(5), 567-579.
- Jun, S., & Yi, J. (2020). What makes followers loyal? The role of influencer interactivity in building influencer brand equity. Journal of Product & Brand Management, 29(6), 803-814.
- Knoll, J., Schramm, H., Schallhorn, C., & Wynistorf, S. (2015). Good guy vs. bad guy: The influence of parasocial interactions with media characters on brand placement effects. International Journal of Advertising, 34(5), 720-743. https://doi.org/10.1080/02650487.2015.1009350
- La Ferle, C., & Choi, S. M. (2005). The importance of perceived endorser credibility in South Korean advertising. Journal of Current issues and Research in Advertising, 27(2), 67.

- Leung, F. F., Gu, F. F., Li, Y., Zhang, J. Z., & Palmatier, R. W. (2022). Influencer Marketing Effectiveness. Journal of Marketing, 86(6), 93-115. https://doi.org/https://doi.org/10.1177/00222429221102889
- Lewczyk, M. (2021). June 30). The appeal of online personas: Why people love virtual influencers. Virtual Humans. https://www.virtualhumans.org/article/online-person as-and-why-people-love-virtual-influencers.
- Lou, C., Kiew, S. T. J., Chen, T., Lee, T. Y. M., Ong, J. E. C., & Phua, Z. (2023). 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
- Lueck, J. A. (2015). Friend-zone with benefits: The parasocial advertising of Kim Kardashian. Journal of Marketing Communications, 21(2), 91-109. https://doi.org/10.1080/13527266.2012.726235.
- Meyers, C. B. (2017). Social media influencers: A lesson plan for teaching digital advertising media literacy. Advertising & Society Quarterly, 18(2). https://doi.org/10.1353/asr.2017.0018.
- Miao, F., Kozlenkova, I. V., Wang, H., Xie, T., & Palmatier, R. W. (2022). An emerging theory of avatar marketing. Journal of Marketing, 86(1), 67-90. https://doi.org/10.1177/0022242921996646.
- Moriuchi, E. (2021). An empirical study on anthropomorphism and engagement with disembodied AIs and consumers' re-use behavior. Psychology & Marketing, 38(1), 21-42.
- Moustakas, E., Lamba, N., Mahmoud, D., & Ranganathan, C. (2020, June). Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers. In 2020 International Conference on Cyber Security and Protection of Digital Services (Cyber Security) (pp. 1-6). IEEE.
- Mrad, M., Ramadan, Z., & Nasr, L. I. (2022). Computer-generated influencers: The rise of digital personalities. Marketing Intelligence & Planning, 40(5), 589-603. https://doi.org/10.1108/MIP-12-2021-0423
- Munnukka, J., Uusitalo, O., & Toivonen, H. (2016). Credibility of a peer endorser and advertising effectiveness. Journal of Consumer Marketing, 33(3), 182-192.
- Mustak, M., Salminen, J., Mäntymäki, M., Rahman, A., & Dwivedi, Y. K. (2023). Deepfakes: Deceptions, mitigations, and opportunities. Journal of Business Research, 154. https://doi.org/10.1016/j.jbusres.2022.113368
- Ozdemir, O., Kolfal, B., Messinger, P. R., & Rizvi, S. (2023). Human or virtual: How influencer type shapes brand attitudes. Computers in Human Behavior, 145, 107771. https://doi.org/10.1016/j.chb.2023.107771.
- Penttinen, V., Ciuchita, R., & Čaić, M. (2022). YouTube It Before You Buy It: The Role of Parasocial Interaction in Consumer-to-Consumer Video Reviews. Journal of Interactive Marketing, 57(4), 561-582. https://doi.org/10.1177/10949968221102825
- Piriyakul, I., & Piriyakul, R. (2021). The moderating effect of influencer on the causal map of mutual information, coproducer and customer value: a thematic analysis of messages posted by brand communities. Journal of Marketing Analytics, 1-14.
- Rauschnabel, P. A., & Ahuvia, A. C. (2014). You're so lovable: Anthropomorphism and brand love. Journal of Brand Management, 21, 372-395.
- Rheu, M., Joo, E., & Yang, J. (2023, July). Human vs. Virtual influencers: explaining the effectiveness of different types of influencers through the lens of uncanny valley and parasocial relationship. In Global Marketing Conference (pp. 353-359).
- Sands, S., Ferraro, C., Demsar, V., & Chandler, G. (2022). False idols: Unpacking the opportunities and challenges of falsity in the context of virtual influencers. Business Horizons, 65(6), 777-788. https://doi.org/10.1016/j.bushor.2022.08.002.
- Schouten, A. P., Janssen, L., & Verspaget, M. (2021). Celebrity vs. Influencer endorsements in advertising: the role of identification, credibility, and Product-Endorser fit. In Leveraged Marketing Communications (pp. 208-231). Routledge.
- Stein, J. P., Linda Breves, P., & Anders, N. (2022). Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness. New Media & Society, 14614448221102900.
- Stubb, C., & Colliander, J. (2019). "This is not sponsored content"—The effects of impartiality disclosure and e-commerce landing pages on consumer responses to social media influencer posts. Computers in Human Behavior, 98, 210-222.
- Thomas, V. L., & Fowler, K. (2021). Close encounters of the AI kind: Use of AI influencers as Brand endorsers. Journal of Advertising, 50(1), 11-25. https://doi.org/https://doi.org/10.1080/00913367.2020.1810595
- Triantos, A., Plakoyiannaki, E., Outra, E., & Petridis, N. (2016). Anthropomorphic packaging: Is there life on "Mars"? European Journal of Marketing, 50(1/2), 260-275. https://doi.org/https://doi.org/10.1108/EJM-12-2012-0692

- Verhagen, J., & Wagenmakers, E. J. (2014). Bayesian tests to quantify the result of a replication attempt. Journal of Experimental Psychology: General, 143(4), 1457.
- Wu, S., Xu, L., Dai, Z., & Pan, Y. (2023). Factors Affecting Avatar Customization Behavior in Virtual Environments. Electronics, 12(10), 2286. https://doi.org/10.3390/electronics12102286