

Comparative Effectiveness of Virtual Influencers and Human Influencers on Consumer Trust, Engagement, and Purchase Intention Across Product Categories

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ABSTRACT

For companies, influencer marketing is now a major form of digital marketing, where social media influencers are used to influence consumer awareness, attitudes, behaviours, and purchase intentions. In digital marketing contexts, human influencers are the dominant type of influencer, as they are at least in part effective because they are perceived as more authentic, experienced, relatable, emotive, and credible. More recently, a new type of influencer known as a virtual influencer has emerged. Virtual influencers use computer-generated imagery, animation, and artificial intelligence to construct a digital marketing narrative. This rise of virtual influencers has led to a wide-ranging literature in marketing to investigate whether virtual influencers can achieve similar or superior levels of consumer trust, engagement, and purchase intention compared to their human counterparts. We also investigate whether the effect of virtual influencers as compared to human influencers on these outcomes varies across different product categories (such as fashion, beauty, luxury, technology, gaming, health, fitness or utilitarian consumer products also referred to as functionally helpful products). The paper argues that the effectiveness of influencer type should not be interpreted as a contest between virtual and human influencers, as their effectiveness depends on the interaction between influencer characteristics, consumer motivations, characteristics of the platform, product category, perception of influencer authenticity, disclosure, and fit between product and influencer. Fashion, luxury brands, gaming, digitally native culture, culture-bound items, visually expressive products, and digital-native brands perform better with virtual influencers, whereas human influencers are more suitable for products that require expertise, experience, physical evidence, trust, or emotional reassurance. The review ultimately concludes that the future of influencer marketing is likely to be one of human, virtual and hybrid influencer cohabitation.

Keywords: Virtual influencers, human influencers, influencer marketing, consumer trust, consumer engagement, purchase intention, product categories, authenticity, source credibility.

INTRODUCTION

Influencer marketing is a major form of communication in digital marketing. It seeks to go beyond celebrity endorsements and advertising through the use of trusted advocates with large and engaged audiences who can smoothly integrate the brand into everyday storytelling, lifestyle content, product reviews and social media entertainment media. Unpaid influencer communication can look different from customary advertising. For example, advertising in influencers' posts, reels, stories, livestreams, reviews, vlogs, and other formats can seem more personal, interactive, and socially embedded. Influencer advertisements can also be processed as entertainment, recommending, showing lifestyle, being candid, and giving peer advice. Thus, influencer marketing is less overtly intrusive and more credible than customary brand marketing (Schouten et al., 2020). Source credibility, identification, attractiveness, perceived expertise, and fit between the product and endorser have been established as influential in influencer marketing (Schouten et al., 2020; Xiao et al., 2018). Influencers with human traits, such as those who display their lived experience, personality, presentation of self, storytelling,

and interaction with followers, have been described as customary influencers with perceived authority. Influencers' ability to share their own experiences, express their opinions, and convey warmth and emotion helps ease parasocial relationships with followers. Parasocial relationships subsequently impact brand attitudes and purchase intentions (Yuan & Lou, 2020; Lin et al., 2021). Social identity processes can also influence consumer behaviour, with influencers playing the role of aspirational figures, lifestyle role models, or desirable social groups (Farivar & Wang, 2022; Lin & Pierre, 2023).

At the same time, with the advancement in new technology comes the emergence of the virtual influencer, a computer generated fictional or digitally simulated persona who acts like a social media influencer without being a real human. Virtual influencers can post online photos and videos, interact with people, represent lifestyles and occupations, partner with brands, and engage in social behaviour online. Some are photorealistic, others animated, stylized, or overtly computer-generated. They have challenged assumptions in influencer marketing that authenticity, human presence, and lived experience are preconditions for persuasive communication (Thomas & Fowler, 2021; Arsenyan & Mirowska, 2021). Some advantages virtual influencers have over human influencers from the perspective of brands include their controllability, message consistency, creative flexibility, visual perfection, and fewer scandals involving personal lives. Virtual influencers are controlled by their creator(s) (such as creators, agencies, or a brand), which allows their identity, tone, appearance, and associations to be precisely managed. Nevertheless, their artificial nature brings about issues of deception, emotional detachment, transparency, manipulation, and creepiness (Kim & Wang, 2023; Kim & Baek, 2024). Virtual influencers therefore present both opportunities and challenges for brands to communicate with consumers who are active online.

This is relevant because humans and virtual influencers now not only target the same audiences but also appear on the same channels, use the same forms of endorsement, and have similar psychological effects. Nevertheless, the symbolic resources that humans and virtual influencers offer differ, with humans being able to offer authenticity, emotional realism and social similarity, and perceived lived experience. The appeal of virtual influencers lies in factors such as novelty, aesthetic experimentation, controllability, fantasy and digital innovation. Rather than whether or not virtual influencers are better than human influencers, a more useful question is: under what conditions, for which products, and for which consumer goals is each type of influencer more effective? We explore the impact of virtual and human influencers in the areas of trust, engagement, and consumers' purchase intention. Trust is defined as the consumer's belief that an influencer is skilled and honest, reliable, and truthful (Moorman, Zaltman, & Deshpande, 1992). The two primary constructs of influencer marketing are engagement and purchase intention. Engagement is the way a consumer interacts with a piece of content, whether through liking, commenting, sharing, saving, viewing, discussing, and/or showing emotional responses to the content. The purchase intention represents the intent to buy a product after being exposed to influencer marketing content. These cognitive, affective, and conative outcomes can be further divided into a credibility assessment, engagement, and intent to act (Belanche et al., 2024; Zeng & Lin, 2025; Li et al., 2023).

The paper also analyses the effectiveness of a type of influencer in different categories. Product categories vary in terms of risk, involvement, emotional value, visibility, utilitarian function, hedonic value, and need for expertise. We introduce the differences in the product category to contribute to the understanding of consumers' differential responses to human and virtual influencers and the implications for digital endorsement strategy during the coexistence of human and artificial endorsements. We also show that consumers might prefer the realism of human influencers or the fantasy world offered by virtual influencers.

Research Gap

Most influencer marketing research has focused on human influencers, celebrity endorsers, and source credibility, while research on virtual influencers is very limited and fragmented. Despite research being published regarding the effectiveness and novelty of virtual influencers, and the issues regarding authenticity, trust, and the uncanny valley, little is known about how human and virtual influencers will differ in terms of consumer trust, engagement and purchase intention when compared to each other. Some research also involves product categories, though it is rare for inter-category comparisons to be brought under a single framework.

This paper contributes to the theoretical and empirical knowledge in human and virtual influencer research in terms of analysing the product category effects on influencer effectiveness. We argue influencer effectiveness is contingent rather than constant; thus, influencer effectiveness varies depending on the consumer motivation to follow the influencer, compatibility with the platform environment, product characteristics, and campaign objective.

Research Objectives

The objectives of this paper are:

1. To compare the relative effectiveness of virtual and human influencers in establishing consumer trust.
2. To understand the difference in consumer engagement created by virtual and human influencers.
3. To investigate the role of influencer types on consumers' purchase intention.
4. To assess how product category affects the effectiveness of virtual and human influencers.
5. To develop a conceptual understanding of which human, virtual, or hybrid influencer strategies brands should employ.

Research Questions

The following research questions guide the present work:

1. How do virtual influencers and human influencers differ in terms of their effect on consumer trust?
2. Which influencer type is the most effective in generating consumer engagement under what conditions?
3. How do virtual influencers and human influencers affect purchase intention across different product categories?
4. What roles do authenticity, credibility, novelty, realism, and product-influencer fit play in influencer effectiveness?
5. How should brands balance the use of people versus virtual influencers in their campaigns depending on the product category?

This paper is based on a conceptual and literature-based review of influencer marketing research, including source credibility, parasocial interaction, authenticity, match-up theory, social identity, virtual influencers, customer engagement and customer purchase intention. The methodology is a comparative review of literature, given that it has not analysed new primary data; the findings of existing research are applied to contrasting product types. The goal is to extend theory and derive implications for the practice of marketing.

THEORETICAL BACKGROUND

To create a meaningful comparison of virtual influencers and human influencers, it is essential to build theories that explain why consumers trust, follow and buy from influencers.

Source Credibility Theory

Source credibility theory states consumers are more likely to accept a persuasive message when it is delivered by a source perceived as knowledgeable, trustworthy, and attractive. Source credibility is an important aspect of influencer marketing. It has been hypothesised that followers tend to be influenced more by individuals they

consider to be credible and trustworthy, knowledgeable, attractive, and socially desirable (Xiao et al., 2018). Human influencers may have credibility due to having lived experience. Virtual influencers may build authenticity through stylistic and visual consistency, brand likeness, and narrative coherence.

Parasocial Interaction

Parasocial interaction is the sense of familiarity and friendship that a follower develops toward a media personality or an influencer, even though the interaction between viewer and media personality is one-way and mediated. Because human influencers are able to relate their life and share emotions, problems, opinions and experiences, they are better able to generate parasocial interaction, which can positively impact trust, brand attitude and purchase intention (Yuan & Lou, 2020; Lin et al., 2021). They are also capable of inducing parasocial responses, however, and specifically, they did so when their online character resembled a human, interacted and had a believable narrative, although not all consumers enjoyed it.

Match-Up Hypothesis

The match-up hypothesis states that endorsers are more effective when there is a match between the endorser and the product or service being offered, the message and the audience. The endorser's image, credibility, lifestyle, or symbolic meaning should match that of the endorsed product. For instance, a fitness influencer may be an expert in sports nutrition, or a fashion-based virtual influencer may be an expert in luxury fashion or digital fashion. This shows that the distinction in expertise of virtual influencers and humans is not as easily distinguishable as being simply one better than the other. Influencer effectiveness also depends on the congruence between the influencer's identity/communication style and the product category/campaign objectives (Schouten et al., 2020; Liu & Lee, 2024).

Authenticity and Perceived Realness

Authenticity has also been cited as one of the most important factors in influencer marketing: followers prefer endorsers to be authentic, sincere, and personally interested. Human influencers are often judged on how well they represent authenticity, emotional expression, and lived experience. Given that they cannot be real, virtual influencers can still be authentic based on the consistency of their identity, narrative, values, and brand partnerships as an influencer and character. Thus, virtual influencer authenticity may rely more on narrative authenticity, design iterations, and honest disclosures than on biological authenticity (Lee & Eastin, 2021; Lou et al., 2023; Koles et al., 2024).

Anthropomorphism and the Uncanny Valley

Virtual influencers are created with human attributes such as personality, social interaction, and expression, which may draw consumers to relate to them on a human level, and they may seem more present and expressive. However, influencers with high levels of human likeness may become disconcerting to audiences when their appearance or behaviours are not quite realistic enough. If consumers find a virtual influencer to be creepy, deceptive, or emotionally distant, their trust and persuasion-based attitude towards the influencer may decline (Franke et al., 2023; Kim & Baek, 2024). Thus, the humanlikeness of virtual influencer design should be balanced with transparency and stylistic clarity.

VIRTUAL INFLUENCERS AND HUMAN INFLUENCERS

Human influencers (also known as human content creators) are defined as social media users with a niche or specialisation in fashion, beauty, travel, technology, gaming, fitness, food and drink, education, or lifestyle who have built a following and authority as a result of their expertise, attractiveness, relatability, creativity, or ability to entertain or engage and who use a variety of formats to present their experience with products including images, videos, stories, livestreams, reviews, tutorials, and personal stories. Because influencers are assumed to have used the products they are promoting, influencer advertisements are commonly perceived as more authentic than branded advertisements (Lee & Eastin, 2021; Roth-Cohen et al., 2024).

Unlike human influencers, virtual influencers are media characters, avatars or imaginary people created through computer-generated imagery, animation, artificial intelligence, or a combination of computer-generated characters and human input. They are given a name, likeness, personality, lifestyle, values, and biography. Virtual influencers engage with their followers, partner with brands, and participate in internet culture. They can be highly realistic and produced to resemble humans, or more stylized or artificial in appearance. However they are constructed, their identity is produced and owned by creators, agencies or brands (Thomas & Fowler, 2021; Arsenyan & Mirowska, 2021).

The difference between human and virtual influencers is ontological and communicational. Virtual influencers are created, while human influencers are real people. Persuasion of human influencers is based on lived experience, emotionality, and personality. Influencers influence consumers differently because they can be constructed with different effort, narratively, aesthetically, temporally, and in terms of meaning. Consumers may perceive human influencers based on trust, similarity, authenticity, expertise, and warmth, while virtual influencers may be evaluated based on novelty, realism, humanlikeness, aesthetics, technological attraction, disclosure, and brand fit (Ju et al., 2024; Franke et al., 2023). Human influencers use casual narratives, emotion or humour, self-disclosure, spontaneity, first-hand reports on a topic, and rapport-building. These techniques can be more relatable and relevant to everyday life. Consumers found human influencers more trustworthy when they did activities, talked about experiences, or gave judgments in a way that was relatable to them. Virtual influencers speak and act like real people, and their communications often require scripting and control. While this can benefit brand equity management, it reduces authenticity, spontaneity, and emotional quality, and makes the virtual influencer's experiences more predictable.

This trade-off is also made by consumers. Although virtual influencers are perceived to be more creative, fashionable, and technology-savvy, they are less trusted by consumers when real-life human emotions and experiences are needed (Lou et al., 2023; Belanche et al., 2024). From this perspective, virtual influencers enable brands to connect with consumers best when the aim is to sell a fashion or luxury good, or to promote a video game - where visual identity or symbolic association are key. Virtual influencers are less effective when selling concrete consumer goods, such as skin products or supplements, travel and vacations, and fitness workouts. Another difference is controllability: human influencers can be more spontaneous, flexible and appear more realistic, but are less controllable. They do however have less control over the influencer's behaviour, beliefs, controversy, or personal choices. An influencer's human errors are harder to contain as they may damage the brand. Virtual influencers have more control over their appearance, speech, values, and brand partnerships, enticing brands that value control, safety, and consistency, and who wish to curate a brand message over time.

But this same controllability makes the virtual influencer look inauthentic and manipulative. Virtual influencers can be read as tools of corporate interests (Kim & Wang, 2023; Gerlich, 2024). That is why transparency and disclosure are so important. However, if people know that an influencer is virtual and think they are engaging or symbolic, consumers do not think they have been misled and may think the endorsement is more credible. Broadly, human and virtual influencers occupy similar promotional roles but are characterised by differing symbolic and communicative resources. Whereas human influencers are associated with authenticity, experience, emotion, and social resemblance, virtual influencers are characterised by novelty, aesthetics, controllability, and technological distinctiveness. Such factors affect the way consumers are forming trust toward the content offered and the purchase intention.

CONSUMER TRUST IN INFLUENCER TYPES

Trust represents one of the strongest influences in influencer marketing. People are much more likely to be receptive to persuasive marketing efforts when they believe the source is trustworthy, honest, capable, and dependable. An influencer's source credibility, perceived expertise, perceived attractiveness, perceived authenticity, perceived transparency, emotional connection, and perceived similarity all influence how much their followers trust them (Xiao et al., 2018; Lee & Eastin, 2021). Influencers are judged differently by their followers than by those hiring them as advertisers. They may also perceive the influencer as authentic, socially attractive, and emotionally accessible (Yuan & Lou, 2020). The relationship of trust between influencer and consumer is greater for human influencers than digital influencers because humans are assumed to have lived and

represent their product experience. When consumers observe that a human influencer is posting about skin care, food, travel, workout gear, or technology, consumers assume that the influencer has actually used the product. This experience may make the endorsement more authentic, where consumers may wish for practical answers, emotional assurance, or risk perception reduction when it comes to products. Humans can show, discuss problems, answer questions, show results, or use personal experience to build credibility.

Perceived authenticity positively affects advertising effectiveness, brand attitude, and brand engagement (Roth-Cohen et al., 2024; Lee & Eastin, 2021). Since social identity and perceived similarities result in individuals feeling like the influencer understands their lifestyle, preferences, needs, and values, influencers are perceived to be trustworthy (Farivar & Wang, 2022; Lin & Pierre, 2023). Human influencers can use self-disclosure and vulnerability to increase trustworthiness. These influencers might share their personal lives, struggles, behind-the-scenes content, or emotions, appearing more like ordinary social actors than marketers. Parasocial interaction could increase the positive effect of self-disclosure and vulnerability because followers seem to perceive influencers as social and appealing, leading them to see the influencer as a friend (Lin et al., 2021). It may be argued that virtual influencers are less plausible spokespersons for products due to the fact that they have no physical body, life experience, emotions or backstory. This has the potential to make it more difficult for consumers to trust that an artificial influencer could endorse a product that requires use or experience, such as health, beauty, travel, food, fitness, etc. Additional ethical concerns arise when consumers are unsure who owns the virtual influencer or whether the endorsement is accurate, as well as if characters are explicitly designed to disrupt consumers' emotions (Kim & Wang, 2023; Franke et al., 2023).

Hyper-realistic virtual influencers may also elicit the uncanny valley effect - for example, consumers perceive them as creepy or fake when they are too real and yet still artificial (Kim & Baek, 2024). Although this may reduce trust in attractive individuals, virtual influencers can be trusted to an extent by being credible (predictable, designed by professionals, usually visually very similar) and also sometimes being attractive. They are not subject to the unpredictable behaviour shown by human influencers, and from a brand's point of view can be trusted as their message, persona and values. Where the artificiality of the influencer is clear, the character is attractive, the display of personality is consistent and the influencer is relevant in the context of the campaign, consumers' trust in virtual influencers may be less connected with the notion of personal sincerity in the human sense (Belanche et al., 2024; Zeng & Lin, 2025). Instead, trust may emerge from narrative consistency, brand credibility, the entertainment aspect, and symbolic authenticity, whereby the influencer may be imagined, for example, as not having personally used a product, but as a relevant brand story actor.

Social similarity also works differently for human vs. virtual influencers, as human influencers are perceived as more similar in emotions, lifestyles, experiences, and social identity, which increases their credibility and persuasiveness. Although virtual influencers may create no realism-based similarity, they may create symbolic or aspirational similarity towards the simulated influencer. Some consumers may see a virtual influencer as a perfected version of a desired identity and as such may not need them to be real but rely instead on the influencer's representation of the ideal image or lifestyle (especially in fashion, luxury, gaming and global youth culture) (Zeng & Lin, 2025).

A few studies found that human influencers perform better than virtual influencers in trust-based settings (Li et al., 2023; Belanche et al., 2024). In contrast, virtual influencers can be trusted in contexts requiring consistency, creativity, novelty, information transparency, and brand control. Trust is therefore likely to depend not on whether the influencer is human or non-human but how authenticity and disclosure issues are tackled, how much influence is congruent with the product, and whether the consumer is interested in getting reassurance or a symbolic experience.

CONSUMER ENGAGEMENT WITH INFLUENCER CONTENT

Consumer engagement includes liking, commenting, sharing, viewing, saving, talking about, following and responding to influencers' communication. Engagement provides marketers with valuable information regarding consumer attention and social energy towards influencer communication. High engagement can help increase reach, algorithmic visibility, brand awareness and connect with the consumer, the influencer and the brand. Entertainment, relevance, interactivity, similarity and emotion are strongly associated with social media

engagement (Lu & Chen, 2023; Lu et al., 2024). Human influencers engage followers via relatability, warmth, emotionality, and spontaneity. Followers are attracted to human influencers because they offer insights into everyday life and reveal their vulnerabilities, opinions, successes, failures, and events that take place in their daily lives. Comments may instead be directed towards the influencer's personality, affect, relationships, looks, or life experiences. With regards to the influencer, parasocial relationships and the feeling of talking to a friend in a familiar, likable, or enviable personality are particularly relevant (Lin et al., 2021; Yuan & Lou, 2020). An emotional connection eases social rewards from human influencer content and repetition of behaviour. Factors associated with virtual influencer engagement are novelty and curiosity, visual aesthetics and the digital style, and the blurred line between fiction and reality. The phenomenon of consumer engagement with virtual influencers may be driven by novelty, futurism, entertainment, and the visual aesthetics of the content of virtual influencers. Consumers' willingness to engage with virtual influencers may be driven by both the product in the post and the perceived realism, creativity, strangeness, and innovativeness of the influencer (Franke et al., 2023; Gerlich, 2023).

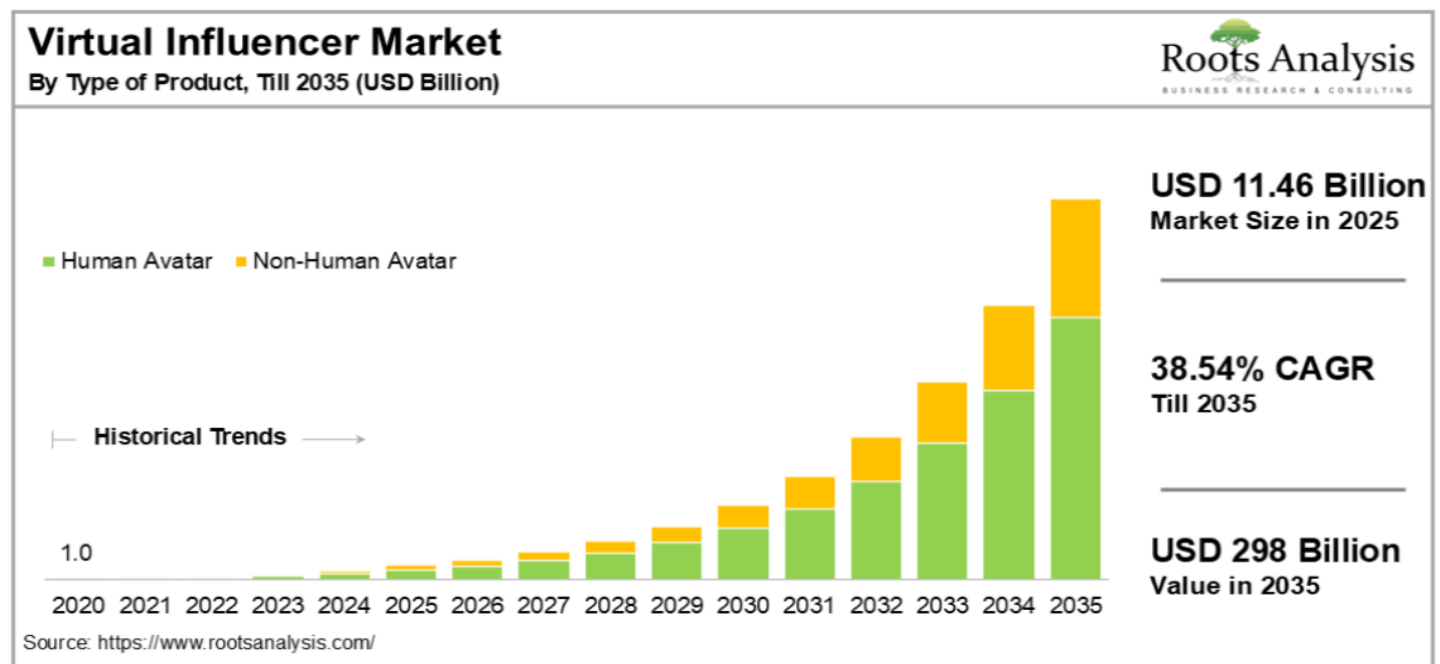


Fig. 1: Virtual Influencer Market

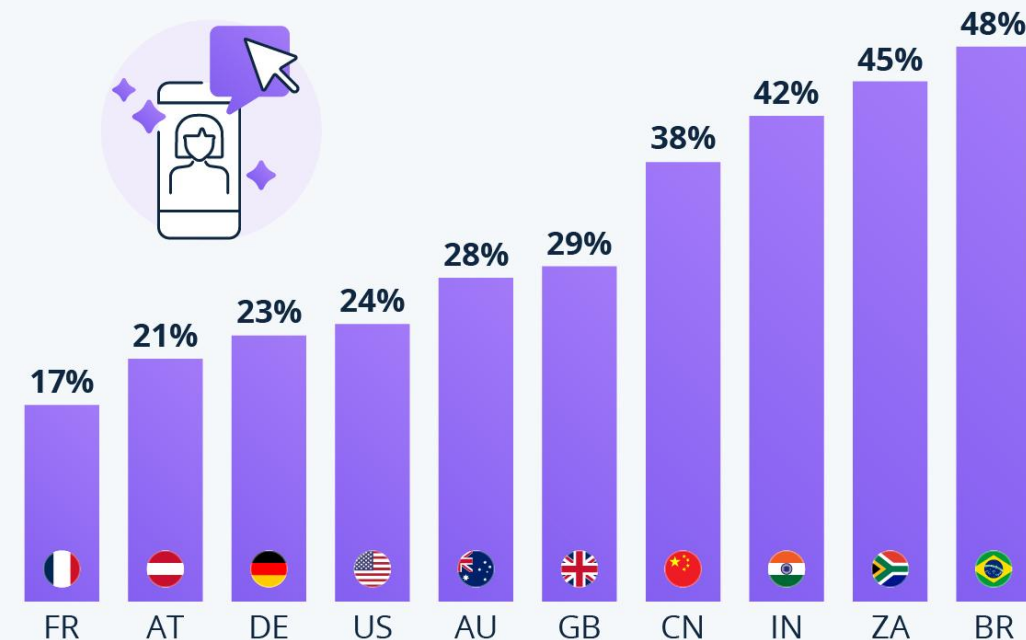
Source: <https://www.rootsanalysis.com/virtual-influencer-market>

Fig. 1 indicates that the market for virtual influencers is growing rapidly. This growth reflects increasing investment in artificial intelligence, computer-generated characters, avatar-based branding, and digital marketing innovation. The expansion of the virtual influencer market suggests that brands are becoming more willing to experiment with non-human endorsers, especially for campaigns involving visual culture, digital identity, gaming, luxury, and youth-oriented branding.

Scholars argue that people are drawn to the entertainment and curiosity of virtual influencers because they see their posts as a tour of a fabricated world. This is especially for image-based social media such as Instagram and TikTok because users are already accustomed to filters, avatars, gaming culture, artificial intelligence and digital self-presentation (Choudhry et al., 2022; Byun & Ahn, 2023). This could mean they do not see the need to trust a virtual influencer's content on a deeper level. Or they may simply love the novelty, aesthetic, and spectacle. Another explanation for engagement is social similarity between influencers and their followers, which is based on the perception that influencers are similar social others, sharing values, problems, lifestyles, preferences, or objectives. It is difficult for virtual influencers to develop experience-based similarity, but they can build symbolic similarity by using similar fashion style, subcultural identity, gaming style, musical taste, language, humour, and youth culture narratives. For example, a fashion or gaming-oriented virtual influencer can appeal to a digital-culture-oriented audience even if the audience knows that the influencer is just an avatar (Lee & Yuan, 2023; Lin et al., 2024).

The Influence of Influencers

Share of respondents in selected countries who bought products because celebrities/influencers advertised them



1,700–8,600 respondents (18–64 y/o) per country surveyed Apr. 2025–Mar. 2026

Source: Statista Consumer Insights



statista

Fig. 2: Human Influencer Market

Source: https://www.statista.com/chart/24933/share-of-respondents-saying-they-purchased-something-because-of-influencers/?srsId=AfmBOopFvDT4qG5p_oWPfYa1oYVIfya3nK1XFRQdXQQP_Q4DkDlZzY8

As shown in Fig. 2, human influencer marketing activities continue to impact consumer purchasing behaviour in many countries, suggesting that customary influencer marketing remains relevant despite the emergence of virtual influencers. Overall, these two figures seem to indicate that influencer marketing will involve the use of a mix of human and virtual influencers depending on the specific goals of the marketing campaign, target demographic, product category, marketing platform, and emotional response desired from the potential customers.

Even if more likes, comments, and shares are accrued by a virtual influencer due to their abnormality and controversy, this engagement does not necessarily correlate with trustworthiness or purchase intention. Some viewers of virtual influencers leave comments because they find them to be strange, fake, manipulative, or uncanny. Likewise, human influencers tend to generate high engagement but can trigger negative responses from consumers when they are perceived as over-commercialised, insincere, or inconsistent with their perceived personalities (Zniva et al., 2023; Andonopoulos et al., 2023). Ultimately, human and virtual influencers generate different types of engagement: human influencers generate relational engagement, based on emotional connection, identification, familiarity and trust; virtual influencers generate curiosity-based or spectacle-based engagement, based on novelty, visual pleasure, innovative information and entertainment. While both types of influencers have their respective advantages, human influencers are best suited to campaigns with a longer-term focus that seek to build relationships and persuade, while virtual influencers are best suited to campaigns with a goal of creating buzz, visibility, distinctive brands and cultural relevance on digital public platforms.

PURCHASE INTENTION AND CONSUMER DECISION-MAKING

In influencer marketing, purchase intention is defined as the consumer's willingness or intention to purchase products after receiving marketing communication messages. Influencer marketing influences purchase intention through various characteristics such as trust, beauty, product fit, message quality, parasocial relationship, authenticity, and customer motivation. Influencers can affect purchase intention in many ways, including by directly recommending a product or by improving brand attitude, product interest, uncertainty, and desire (Schouten et al., 2020; Lin et al., 2021).

Human influencers often influence purchase intention by experiential persuasion, since consumers are more likely to believe that a person has tried, worn, used or benefited from a product. In some categories (such as cosmetics, skin care, travel, technology/convenience, household, fitness, food, or services) where experience or demonstration is critical, human influencers can show the use of products, evaluate competing products, show before and after situations, and respond to questions, advantages, and disadvantages of consumer products. Providing this information lowers perceived risk and helps consumers move closer to the point of purchase (Lu et al., 2024; Mainolfi et al., 2022).

Virtual influencers, in contrast, influence purchase intention through symbolic association, aspirational imagery, brand storytelling, aesthetics, entertainment value, and innovation. In consumption contexts of novelty, self-expression, hedonic pleasure, or identity construction, virtual influencers contribute to brand personalities of modernity, digital culture, creativity, fantasy, and exclusivity (Li et al., 2023). Furthermore, purchase intention may more likely arise when the avatar, personality, and narrative of the virtual influencer match the aspirational or technology-related image of the brand (Li et al., 2023; Zeng & Lin, 2025). The relationship between engagement and purchase intention is not straightforward; virtual influencers may elicit interest and attention, as well as brand recall, but not necessarily trust or the intent to purchase. Even if the consumer was entertained by the ad, doubts might still be raised about the credibility of the endorsement, particularly when the consumer seeks evidence of real-life product effectiveness. Purchase intention is positively related to the perceived plausibility, transparency and brand congruence of virtual influencers and is negatively related to the psychological distance resulting from social presence (Ju et al., 2024; Lou et al., 2023).

The four main mediators are product appeal, product utility, brand attitude, and product-endorser fit. Influencers may not persuade by themselves. They are more like a metaphorical bridge between consumer and brand. Brands wishing to present themselves as contemporary, luxurious, fun, artistic, fashionable, and tech-savvy would be better served by a virtual influencer. For brands that rely on trust, expertise, usefulness or experience in the real world, a human influencer is better. This fits with the match-up hypothesis, which claims that the interaction between endorser and product/message influences the effectiveness of an endorser (Liu & Lee, 2024; Schouten et al., 2020). A virtual influencer would be a fit spokesperson for a luxury fashion brand, because this product is symbolic, visual and aspirational. Conversely, a virtual influencer would be an ineffective spokesperson for a medical, health or fitness-related product, where endorsers' experience and real-life credibility are critical. A human influencer may be appropriate for a product review or tutorial, but less so for a futuristic digital fashion campaign.

Other research suggests that inauthenticity may not necessarily oppose persuasion and that influencers may still be able to influence consumers or activate aspirational desire when they are less than completely authentic (Andonopoulos et al., 2023). This means that while virtual influencers are artificial, their use can be aspirational, but this is more likely with identity related hedonic or self-expressive products, than with utilitarian or high-risk offerings.

Thus, human and virtual influencers can both influence purchase intention, although with different underlying mechanisms. Human influencers rely mostly on trust, relatability, expertise and practical credibility, while virtual influencers rely on novelty, symbolic association, aspirational appeal and entertainment. By contrast, it may depend upon the extent to which consumers value authenticity versus fantasy, information versus image, reassurance versus excitement.

THE IMPACT OF PRODUCT CATEGORIES ON INFLUENCER EFFECTIVENESS

Product category may be one of the most important factors determining influencer effectiveness, as consumers evaluate different products based on different criteria. Some of these products are ultimately driven by functional needs, factual issues, expertise, and reducing risk, whereas others are driven by aesthetic, fantasy, identity, pleasure, and symbolic needs; therefore, an influencer may match one but not the other.

Fashion

The fashion industry is one of the strongest uses for virtual influencers. Fashion is visual by nature, and is linked to trends, fantasy, identity and aesthetic perceptions. Virtual influencers can be shown within visual aesthetics, can wear experimental garments, can be staged in fictional contexts, and are not limited to conventional clothing. This can thus increase aspirational and fantasy elements of fashion brands. Human-like features, authenticity cues, and product matches have increased consumer reactions to virtual influencers in fashion. The effects were particularly pronounced when the virtual influencers reflected the visual logic of the fashion brands (Ju et al., 2024; Liu & Lee, 2024).

While human influencers still play a large and relevant role in fashion through relatability, body diversity and styling advice, virtual influencers are particularly relevant for brands promoting spectacle, digital creativity, luxury, and futuristic identity. The decision to use a human model depends on whether a brand wants to promote ideas of wearability and personal expression through the human body or fantasy and forward-thinking through a virtual representation.

Beauty and Skincare

Beauty marketing is visual and aspirational, but it is also empirical. Viewers want to know whether makeup looks good on skin over time, whether makeup irritates the skin, and whether the influencer's experience is believable. This is why human influencers have an advantage when it comes to beauty and skincare reviews, tutorials, demonstrations, and before-and-after photos.

Beauty brands may still benefit from hiring a virtual influencer. Campaigns that focus on an artistic identity, brand message, conceptual beauty or digital experimentation can be successful. For example, a virtual influencer can promote a new futuristic makeup collection or luxurious fragrance campaign. For claims regarding skincare results, matching one's skin tone, and product effectiveness, human influencers might be more credible sources (Belanche et al., 2024; Li et al., 2023).

Luxury Products

Luxury brands may be especially good candidates for virtual influencers because the luxury values of exclusivity, idealisation, aspiration, distance, fantasy and public persona are highly aligned with the hyper-curated nature of virtual influencers, their aspirational fantasy lifestyles and futuristic appearance. In luxury contexts, where luxury may not be explicitly connected with the logic of product evaluation, the artificiality of virtual influencers may not weaken their persuasiveness.

Because virtual influencers are entirely digital, novel and perceived to be novel and innovative, luxury brands have greater control of their image and brand communication (Gerlich, 2023; Thomas & Fowler, 2021). Brands select human influencers if they wish to communicate taste, lifestyle, heritage or personal prestige, and prefer virtual influencers for communicating spectacle, digital fashion identity and futuristic luxury communication.

Technology and Gaming

Technology products occupy an ambiguous role, serving as avatars for virtual influencers, enabling users to explore ideas related to innovation, artificial intelligence, gaming culture, and digital transformation. Campaigns with content concerning smart devices, gaming, the metaverse, digital platforms or AI products can benefit from their presence and make a brand appear more futuristic.

However, many technology products need to be explained, compared, reviewed, and demonstrated. Consumers may want to know how the product works, its reliability, how well it meets their needs in daily use, and so on. On the other hand, if the product requires hands-on practice or evaluation, human influencers may be better than virtual influencers. The effectiveness of these influencers depends on the purpose of the symbolic innovation or the performance of the innovation product (Li et al., 2023; Liu & Lee, 2024).

Health, fitness, and wellness

These products often have very high trust requirements, because they relate to one's body, personal goals, individual safety, performance claims, etc. Human influencers are generally required, because of needs for evidence of use, personal testimony, social encouragement, and practical information. A fitness influencer may show workouts, progress, discipline, challenges, and results, and a wellness influencer may show routines and experiences that seem personally meaningful.

Virtual influencers struggle with credibility in health, fitness, recovery or lifestyle pathways because they cannot physically experience health, exercise, fatigue, recovery or transformation of body; however, they may still have the potential to create brand awareness or concept of the future for health and fitness innovation. Authenticity and credibility are more important than novelty in this category.

Services Related to Food, Travel and Experience

Since food, tourism, and hospitality experiences are sensory and lived, consumers look to influencers to describe taste and the atmosphere, convenience, and comfort or service quality of places or products. Humans at the table (the influencers) get to taste, smell, participate in social interaction, have the reality of place and service and then take photos, which makes them more authentic. Virtual influencers create aspirational fantasy but generally lack taste, smell, place and service.

Destination branding, theme parks, gaming-linked or fantasy-based tourism may benefit from virtual influencers, where the aim is not to imitate reality, despite real-life influencers being considered more persuasive when making decisions.

Hedonic and Utilitarian Products

A key distinction is between hedonic products, which are consumed for pleasure, fantasy, beauty, entertainment, self-expression, or emotional satisfaction; and utilitarian products, for which virtual influencers may be less effective, as a matter of reach. Consumer evidence for a product's effectiveness is less likely to be the most key factor. These include fashion, luxury goods, gaming, entertainment, digital art, and some beauty products.

Products purchased mainly for their function, performance, comfort, safety, and solutions to problems are considered utilitarian and best suited to human influencers who can convey credibility, experience, information, and reassurance. That includes household appliances, health, financial services, fitness equipment, education tools, and technology reviews. Studies show that utilitarian and hedonic motivation in consumers determines the effectiveness of influencer marketing (Hu et al., 2023; Chang et al., 2023).

Table 1: Comparative Product Category Summary

Product Category	More Suitable Influencer Type	Main Reason
Fashion	Virtual or Human	Virtual influencers suit fantasy and visual experimentation; human influencers suit wearability and relatability.
Beauty and Skincare	Mostly Human	Consumers need real application, skin evidence, personal review, and experience-based credibility.
Luxury	Often Virtual	Virtual influencers support perfection, exclusivity, aspiration, and controlled brand image.
Technology	Mixed	Virtual influencers support innovation image; human influencers support reviews and demonstrations.

Gaming and Digital Culture	Often Virtual	Virtual influencers match avatar culture, digital identity, and entertainment logic.
Health and Fitness	Mostly Human	Consumers require bodily evidence, trust, practical experience, and emotional motivation.
Food and Travel	Mostly Human	These categories depend on sensory and lived experience.
Utilitarian Products	Mostly Human	Practical function and risk reduction require credible human testimony.
Hedonic Products	Often Virtual	Fantasy, aesthetics, novelty, and self-expression support virtual influencer appeal.

When examining the effectiveness of virtual influencers versus human influencers, the effectiveness of human influencers is not uniform, implying that virtual influencers have their own advantages. The persuasive power of human influencers is derived from their social and emotional grounding, and their ability to present personal experience, authenticity, vulnerability, and credible demonstration, which are particularly effective to activate consumer trust and reduce uncertainty. Human influencers consequently were best at building trust, expertise and social proof. Virtual influencers were novel and exciting for their design, aesthetics, fantasy and technological innovation. They can create highly curated brand worlds and visual narratives, but may not have the same functional credibility and trustworthiness as human influencers. They may engage consumers and create brand differentiation in novel ways. Their effectiveness is stronger when consumers see the artificiality of the influencer's portrayal as part of what makes it appealing, rather than a deception. A conclusion the academic literature draws is that authenticity is not a fixed concept. For human online influencers, authenticity may correlate with sincerity, lived experiences, and emotional expressiveness. For virtual influencers, authenticity may correlate with transparency, consistency, narrative coherence, and creative identity. Artificial influencers which are known to be artificial and which are found to convey some meaning are viewed as "authentically artificial". If the artificiality is concealed, however, or if the character is deceptive, consumers tend to distrust the influencer. A key concern is the distinction between engagement and persuasion. In the case of virtual influencers, engagement may be attributable to their novelty and visual appeal, but not result in purchase intention. Likewise, in case of human influencers, emotional engagement and thus persuasion may be diminished if followers suspect that the influencer's relationship with them serves mainly commercial purposes. Thus, marketers should assess the quality of the engagement. Product category matters. Human influencers are more effective when consumers need practical information, sensory experience, personal testimony, or emotional reassurance. Virtual influencers are used to elicit consumer attention for high visual involvement categories that elicit visual interest, fantasy, novelty, and aspirational identity. This explains the predominance of virtual influencers in the fashion, luxury, gaming, and digital domains and human influencers in beauty, health, fitness, food, travel, and utility product categories.

MANAGERIAL IMPLICATIONS

The study concludes with some implications for brands.

The brand should also consider what type of influencer best meets the objectives of the campaign. Human influencers are preferred when the goal is to build credibility, show how the product is used, reduce risk, or share personal experiences. If you're looking to create buzz, create a sense of innovation or build a futuristic image, a virtual influencer may be the right choice.

Second, product-influencer fit is the second requirement. Virtual influencers should not be used just because they are novel. The virtual influencer should also be similar to the product in terms of symbolic meaning, audience, and context. Likewise, the influencer selected should be credible, knowledgeable, and authentic in influencing its audience instead of being selected merely based on follower count.

Third, as virtual influencers are computer-generated, brands should clearly indicate that the influencer is artificial and that the content is sponsored. Transparency may reduce deceptive perceptions and make consumers more receptive to marketing messages.

Fourth, brands should consider the extent to which engagement metrics differ in the expected way from

persuasion. Liking, commenting, and sharing indicate attention, but trust and intention to buy are different. Marketers should explore whether engagement is positive, meaningful, and linked to brand outcomes.

Fifth, hybrid strategies. Brands could prioritise hybrid campaigns, where they combine the use of human influencers and virtual influencers to secure trust and novelty. For instance, human influencers can show products and provide credibility while virtual influencers can provide a visual identity and storytelling with futuristic appeal.

CONCLUSION AND FUTURE SCOPE.

Human vs. virtual influencer studies suggest that influencer effects are context-dependent. Humans have real-world identities, lived experience, emotional relatability, and personal authority to provide credible testimony that may influence behaviour more than virtual influencers. They are most effective in product categories for which consumers lack confidence but seek reassurance, expertise, social similarity, emotional connection, or demonstration of product utility. Thus, through parasocial interaction and social identification, human influencers can build trust and ease purchase intention across most consumer domains (Lin et al., 2021; Farivar & Wang, 2022). Virtual influencers are becoming an increasingly common type of social media endorser, and they have advantages in consistency of appearance, creativity, brand safety, and alignment with futuristic brands. They are used in fashion, luxury, gaming and digital culture, and other hedonic or visual products (Franke et al., 2023; Gerlich, 2023; Liu & Lee, 2024), particularly when the target audience is familiar with digital culture and when the campaign is driven by the imagination, aspiration, entertainment, or innovation of the virtual influencer (see Liu et al., 2021). Simultaneously, virtual influencers raise questions regarding the dependence of the concept on consumers' assumptions regarding authenticity, disclosure, realism, humanlikeness, and commercial intent. Virtual influencers can backfire when trust is lost due to consumers viewing them as dishonest, creepy, and soulless. A virtual influencer can be an effective communication tool when well-disclosed, creatively designed, and aligned with the brand (Belanche et al., 2024; Kim & Wang, 2023). With regard to the advancement of marketing theory, this paper extends source credibility, authenticity, parasocial interaction, social identity theory, and match-up theory to the artificial social actor context. In advancing marketing practice, this paper proposes the alignment-based endorsement strategy. The most effective influencer matches the product category and consumer motivation, the platform culture, and the campaign objectives and can match their identity, communication style, symbolic meaning, and perceived credibility accordingly. The most effective influencer is not necessarily the most human or the most technologically advanced.

Future research could examine cross-cultural differences in how authentic, virtual, and artificial social presence are assessed (Rizzo et al., 2025; Lin et al., 2024) or focus on the ethics of social presence, such as issues of agency, deception, use of data, social attachment, and monetizing human-like digital personalities (Gerlich, 2024; Kim & Wang, 2023). Third, research should examine influencer effectiveness across multiple platforms (i.e. TikTok, Instagram, YouTube, livestreaming platforms, and metaverse). Fourth, age should be studied given that younger consumers are more familiar with avatars, video games, artificial intelligence-generated content, and digital identities than older consumers. Fifth, future study should examine hybrid influencer models, where brands deliberately combine human and virtual influencers across campaigns, thereby balancing the variables of trust, creativity, realism, and fantasy. Overall, human and virtual influencers may not replace each other but instead co-exist. Human influencers will continue to thrive wherever authenticity, experience, trust and reputation are key, and virtual influencers will be the preferred choice wherever visual innovation, symbolic identity, anticipation, and digital culture are the main objectives. The most successful brands are the ones that really understand who is influencing the consumer, and just as importantly, why, how and in what context.

REFERENCES

1. Andonopoulos, V., Lee, J., & Mathies, C. (2023). Authentic isn't always best: When inauthentic social media influencers induce positive consumer purchase intention through inspiration. *Journal of Retailing and Consumer Services*, 75, 103521.
2. 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.
3. Belanche, D., Casaló, L. V., & Flavián, M. (2024). Human versus virtual influences, a comparative study.

Journal of Business Research, 173, 114493.

4. Byun, K. J., & Ahn, S. J. (2023). A systematic review of virtual influencers: Similarities and differences between human and virtual influencers in interactive advertising. *Journal of Interactive Advertising*, 23, 293–306.
5. Chang, Y.-W., Hsu, P.-Y., Chen, J., Shiau, W.-L., & Xu, N. (2023). Utilitarian and/or hedonic shopping—Consumer motivation to purchase in smart stores. *Industrial Management & Data Systems*, 123, 821–842.
6. Choudhry, A., Han, J., Xu, X., & Huang, Y. (2022). “I felt a little crazy following a ‘doll’”: Investigating real influence of virtual influencers on their followers. *Proceedings of the ACM on Human-Computer Interaction*, 6, 1–28.
7. Farivar, S., & Wang, F. (2022). Effective influencer marketing: A social identity perspective. *Journal of Retailing and Consumer Services*, 67, 103026.
8. Flecha-Ortiz, J. A., Feliberty-Lugo, V., Santos-Corrada, M., Lopez, E., & Dones, V. (2023). Hedonic and utilitarian gratifications to the use of TikTok by Generation Z and the parasocial relationships with influencers as a mediating force to purchase intention. *Journal of Interactive Advertising*, 23, 114–127.
9. 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, 523–539.
10. Gerlich, M. (2023). The power of virtual influencers: Impact on consumer behaviour and attitudes in the age of AI. *Administrative Sciences*, 13(178), 1–18.
11. Gerlich, M. (2024). Societal perceptions and acceptance of virtual humans: Trust and ethics across different contexts. *Social Sciences*, 13(516), 1–20.
12. Hu, L., Filieri, R., Acikgoz, F., Zollo, L., & Rialti, R. (2023). The effect of utilitarian and hedonic motivations on mobile shopping outcomes: A cross-cultural analysis. *International Journal of Consumer Studies*, 47, 751–766.
13. Ju, N., Kim, T., & Im, H. (2024). Fake human but real influencer: The interplay of authenticity and humanlikeness in virtual influencer communication. *Fashion and Textiles*, 11(16), 1–24.
14. Kim, D., & Wang, Z. (2023). The ethics of virtuality: Navigating the complexities of human-like virtual influencers in the social media marketing realm. *Frontiers in Communication*, 8, 1205610.
15. Kim, M., & Baek, T. H. (2024). Are virtual influencers friends or foes? Uncovering the perceived creepiness and authenticity of virtual influencers in social media marketing in the United States. *International Journal of Human-Computer Interaction*, 40, 5042–5055.
16. Koles, B., Audrezet, A., Moulard, J. G., Ameen, N., & McKenna, B. (2024). The authentic virtual influencer: Authenticity manifestations in the metaverse. *Journal of Business Research*, 170, 114325.
17. Lee, J. A., & Eastin, M. S. (2021). Perceived authenticity of social media influencers: Scale development and validation. *Journal of Research in Interactive Marketing*, 15, 822–841.
18. Lee, Y.-H., & Yuan, C. W. (2023). I’m not a puppet, I’m a real boy! Gender presentations by virtual influencers and how they are received. *Computers in Human Behavior*, 149, 107927.
19. Li, H., Lei, Y., Zhou, Q., & Yuan, H. (2023). Can you sense without being human? Comparing virtual and human influencers endorsement effectiveness. *Journal of Retailing and Consumer Services*, 75, 103456.
20. Lin, C. A., & Pierre, L. (2023). The role of social identity and spokesperson in influencing consumer involvement, information seeking, and purchase intention. *Journal of Current Issues & Research in Advertising*, 44, 542–565.
21. Lin, C. A., Crowe, J., Pierre, L., & Lee, Y. (2021). Effects of parasocial interaction with an Instafamous influencer on brand attitudes and purchase intentions. *Journal of Social Media in Society*, 10, 55–78.
22. Lin, C. A., Park, S., Xu, X., & Yang, Y. (2024). Exploring transcultural communication via perceived social distance and intergroup acceptance toward K-pop and Asian culture. *Howard Journal of Communications*, 35, 200–216.
23. Liu, F., & Lee, Y.-H. (2024). Virtually authentic: Examining the match-up hypothesis between human vs virtual influencers and product types. *Journal of Product & Brand Management*, 33, 287–299.
24. 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, 540–557.
25. Lu, H.-H., & Chen, C.-F. (2023). How do influencers’ characteristics affect followers’ stickiness and

- well-being in the social media context? *Journal of Services Marketing*, 37, 1046–1058.
26. Lu, H.-H., Chen, C.-F., & Tai, Y.-W. (2024). Exploring the roles of vlogger characteristics and video attributes on followers' value perceptions and behavioral intention. *Journal of Retailing and Consumer Services*, 77, 103686.
 27. Mainolfi, G., Lo Presti, L., Marino, V., & Filieri, R. (2022). "You post, I travel." Bloggers' credibility, digital engagement, and travelers' behavioral intention: The mediating role of hedonic and utilitarian motivations. *Psychology & Marketing*, 39, 1022–1034.
 28. Mo, Z., & Zhou, M. (2024). Don't like them but take what they said: The effectiveness of virtual influencers in public service announcements. *Journal of Theoretical and Applied Electronic Commerce Research*, 19, 2269–2288.
 29. Park, J., Lee, J. M., Xiong, V. Y., Septianto, F., & Seo, Y. (2021). David and Goliath: When and why micro-influencers are more persuasive than mega-influencers. *Journal of Advertising*, 50, 584–602.
 30. Rizzo, C., Baima, G., Janovská, K., & Bresciani, S. (2025). Navigating the uncertainty path of virtual influencers: Empirical evidence through a cultural lens. *Technological Forecasting and Social Change*, 210, 123896.
 31. Roth-Cohen, O., Segev, S., & Liu, Y. (2024). The effect of non-celebrity influencers' perceived authenticity on social media advertising outcomes. *International Journal of Advertising*, 1–23.
 32. Schouten, A. P., Janssen, L., & Verspaget, M. (2020). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit. *International Journal of Advertising*, 39, 258–281.
 33. Thomas, V. L., & Fowler, K. (2021). Close encounters of the AI kind: Use of AI influencers as brand endorsers. *Journal of Advertising*, 50, 11–25.
 34. Xiao, M., Wang, R., & Chan-Olmsted, S. (2018). Factors affecting YouTube influencer marketing credibility: A heuristic-systematic model. *Journal of Media Business Studies*, 15, 188–213.
 35. Yuan, S., & Lou, C. (2020). How social media influencers foster relationships with followers: The roles of source credibility and fairness in parasocial relationship and product interest. *Journal of Interactive Advertising*, 20, 133–147.
 36. Zeng, H.-K., & Lin, C. A. (2025). Consumer evaluation of virtual vs. human influencers via source credibility, perceived social similarity, and consumption motivation. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(3), 168. <https://doi.org/10.3390/jtaer20030168>
 37. Zniva, R., Weitzl, W. J., & Lindmoser, C. (2023). Be constantly different! How to manage influencer authenticity. *Electronic Commerce Research*, 23, 1485–1514.