

# Mladá veda

## Young Science



# Mladá veda

## Young Science

### MEDZINÁRODNÝ VEDECKÝ ČASOPIS MLADÁ VEDA / YOUNG SCIENCE

Číslo 1, ročník 14., vydané v marci 2026

ISSN 1339-3189, EV 167/23/EPP

Kontakt: [info@mladaveda.sk](mailto:info@mladaveda.sk), tel.: +421 908 546 716, [www.mladaveda.sk](http://www.mladaveda.sk)

Fotografia na obálke: Wrocław. © Branislav A. Švorc, [foto.branisko.at](http://foto.branisko.at)

#### REDAKČNÁ RADA

*prof. Ing. Peter Adamišín, PhD.* (Katedra environmentálneho manažmentu, Prešovská univerzita, Prešov)

*doc. Dr. Pavel Chromý, PhD.* (Katedra sociálnej geografie a regionálneho rozvoje, Univerzita Karlova, Praha)

*prof. Dr. Paul Robert Magocsi* (Chair of Ukrainian Studies, University of Toronto; Royal Society of Canada)

*Ing. Lucia Mikušová, PhD.* (Ústav biochémie, výživy a ochrany zdravia, Slovenská technická univerzita, Bratislava)

*PhDr. Veronika Kmetóny Gazdová, PhD.* (Inštitút edukológie a sociálnej práce, Prešovská univerzita, Prešov)

*doc. Ing. Peter Skok, CSc.* (Ekomos s. r. o., Prešov)

*Mgr. Monika Šavelová, PhD.* (Katedra translitológie, Univerzita Konštantína Filozofa, Nitra)

*prof. Ing. Róbert Štefko, Ph.D.* (Katedra marketingu a medzinárodného obchodu, Prešovská univerzita, Prešov)

*prof. PhDr. Peter Švorc, CSc.*, predseda (Inštitút histórie, Prešovská univerzita, Prešov)

*doc. Ing. Petr Tománek, CSc.* (Katedra verejnej ekonomiky, Vysoká škola báňská - Technická univerzita, Ostrava)

*doc. Mgr. Michal Garaj, PhD.* (Katedra politických vied, Univerzita sv. Cyrila a Metoda, Trnava)

#### REDAKCIA

*Mgr. Branislav A. Švorc, PhD.*, šéfredaktor (Vydavateľstvo UNIVERSUM, Prešov)

*Mgr. Martin Hajduk, PhD.* (Banícke múzeum, Rožňava)

*PhDr. Magdaléna Keresztesová, PhD.* (Fakulta stredoeurópskych štúdií UKF, Nitra)

*RNDr. Richard Nikischer, Ph.D.* (Ministerstvo pro místní rozvoj ČR, Praha)

*PhDr. Veronika Trstianska, PhD.* (Ústav stredoeurópskych jazykov a kultúr FSS UKF, Nitra)

*Mgr. Veronika Zuskáčová* (Geografický ústav, Masarykova univerzita, Brno)

#### VYDAVATEĽ

Vydavateľstvo UNIVERSUM, spol. s r. o.

[www.universum-eu.sk](http://www.universum-eu.sk)

Javorinská 26, 080 01 Prešov

Slovenská republika

© Mladá veda / Young Science. Akékoľvek šírenie a rozmnožovanie textu, fotografií, údajov a iných informácií je možné len s písomným povolením redakcie.

# CREDIBILITY DIFFERENCES AMONG VIRTUAL INFLUENCER VISUAL ARCHETYPES IN INFLUENCER MARKETING

ROZDIELY V DÔVERYHODNOSTI MEDZI VIZUÁLNYMI ARCHETYPMI  
VIRTUÁLNYCH INFLUENCEROV V INFLUENCER MARKETINGU

**Simona Burzová<sup>1</sup>**

The author is a full-time PhD candidate at the Department of Marketing, Faculty of Commerce, Bratislava University of Economics and Business. Her research examines the influence of opinion leaders on consumer decision-making, with a particular focus on digital influencers and their virtual influencer counterparts, exploring consumer behavior and the mechanisms shaping perception, trust, and their impact on consumer attitudes and decisions in the online and offline environment.

Autorka pôsobí ako interná doktorandka na Katedre marketingu na Obchodnej fakulte Ekonomickej univerzity v Bratislave. Vo svojom výskume sa venuje vplyvu názorových vodcov na spotrebiteľské rozhodovanie, so zvýšeným dôrazom na digitálnych influencerov a ich formu virtuálnych influencerov, pričom skúma spotrebiteľské správanie a mechanizmy formujúce vnímanie, dôveru a vplyv na spotrebiteľské postoje a rozhodovanie v online a offline prostredí.

## **Abstract**

The growing use of virtual influencers (VIs) in digital marketing intensifies the need to understand how their visual design shapes perceived credibility. This study compares credibility perceptions of three VI visual types—realistic human, animated human, and non-human - among Generation Z consumers. Drawing on the source credibility framework, credibility was operationalized through expertise, trustworthiness, and attractiveness and measured via a survey using 7-point Likert-scale items. The results reveal statistically significant differences across the three visual forms, with realistic human VIs perceived as the most credible. Nevertheless, credibility ratings remained only moderate overall, indicating a cautious and ambivalent stance toward VIs rather than unequivocal trust. These findings contribute to research on digital persuasion by specifying the role of visual representation in credibility judgments and provide practical guidance for brands considering VIs as part of

---

<sup>1</sup> Workplace address: Ing. Simona Burzová, Department of Marketing, Faculty of Commerce, Bratislava University of Economics and Business, Dolnozemska cesta 1, 852 35 Bratislava  
E-mail: simona.burzova@euba.sk

their communication strategy, while also highlighting directions for further investigation in diverse consumer contexts.

Key words: digital communication, influencer marketing, source credibility, visual realism, virtual influencers

### **Abstrakt**

Rastúce využívanie virtuálnych influencerov (VI) v digitálnom marketingu zvyrazňuje potrebu hlbšie pochopiť, ako ich vizuálna podoba ovplyvňuje vnímanú dôveryhodnosť. Predložený príspevok porovnáva vnímanie dôveryhodnosti troch vizuálnych typov VI (VI s realistickým humanoidným vizuálom, s animovaným humanoidným vizuálom a s nehumanoidným vizuálom) medzi spotrebiteľmi generácie Z. Vychádzajúc z modelu dôveryhodnosti zdroja bola dôveryhodnosť operacionalizovaná prostredníctvom dimenzií expertízy, dôveryhodnosti a atraktivity a meraná dotazníkovým prieskumom so 7-bodovými položkami Likertovej škály. Výsledky preukázali štatisticky významné rozdiely medzi skúmanými vizuálnymi formami, pričom najvyššiu mieru dôveryhodnosti dosiahli VI s realistickým humanoidným vizuálom. Zároveň však celkové hodnotenia zostali skôr na nízkej až strednej úrovni, čo naznačuje, že postoj respondentov k VI je opatrný a do istej miery ambivalentný, nie bezvýhradne dôverujúci. Zistenia rozširujú poznanie v oblasti digitálneho presviedčania tým, že spresňujú význam vizuálnej reprezentácie pri hodnotení dôveryhodnosti, a zároveň prinášajú praktické implikácie pre značky uvažujúce o využití VI v komunikačných stratégiách. Súčasne vytvárajú východisko pre ďalší výskum zameraný na overenie týchto vzťahov v rozličných spotrebiteľských kontextoch.

Kľúčové slová: digitálna komunikácia, influencer marketing, dôveryhodnosť zdroja, vizuálny realizmus, virtuálni influenceri

### **Introduction**

The rise of social media has significantly reshaped how consumers interact with brands, leading to the emergence of new forms of persuasive communication, most notably influencer marketing. Defined as a marketing practice that leverages the persuasive power of highly followed individuals on digital platforms, influencer marketing has become an essential tool for shaping consumer attitudes and behaviors (Lou & Kim, 2019). As this field evolves, a new phenomenon has emerged, known as virtual influencers (VIs) - digitally created personas designed to emulate real human influencers in both form and function. With the advancement of artificial intelligence (AI) and computer graphics, these synthetic entities can now appear visually realistic, emotionally expressive, and socially engaging (Appel et al., 2020).

Building on existing literature, this article examines how different visual types of virtual influencers impact consumers' perceived credibility. Grounded in the source credibility model (Ohanian, 1990), credibility is conceptualized as a multidimensional construct comprising expertise, trustworthiness, and attractiveness. Focusing on Generation Z, a primary target group for VIs, the study explores how visual realism influences trust perceptions and identifies which types of VIs are most effective in eliciting credibility.

## **Conceptualizing Virtual Influencers: Definitions, Market Evidence, and Visual Classification**

In recent years, virtual influencers have become an increasingly prominent and innovative element within the evolving domain of digital communication and social media marketing. These computer-generated personas are increasingly utilized by brands to engage audiences, endorse products, and shape consumer behavior. However, the conceptual boundaries of what constitutes a virtual influencer remain fluid and contested. To date, scholarly consensus on a unified definition of virtual influencers has not yet been achieved. This ambiguity is primarily the result of the rapid advancement of digital technologies and the continuous evolution of the typology and functional roles of virtual influencers within online environments. Nevertheless, a growing body of academic and industry literature offers a variety of definitions that seek to delineate the core characteristics of virtual influencers and clarify their position within the broader influencer marketing paradigm. According to Žák et al. (2021), a virtual influencer is a fictional persona endowed with a name, gender, age, occupation, and a fully constructed narrative identity. These characters engage with audiences by sharing their everyday activities on social media platforms, closely mirroring the behavior of real, human influencers. Virtual influencers may also be understood as software-generated individuals or entities capable of influencing others, primarily through marketing collaborations or participation in social campaigns, and they exist exclusively within the realm of digital media (Conti, Gathani, & Tricomi, 2022). Similarly, Stein, Breves, and Anders (2024) define them as artificial media personas created by programmers or media agencies, who often choose to remain anonymous. As digitally designed figures, appearing either partially or entirely “artificial” (e.g., as 3D-rendered avatars), these entities produce and distribute content in a manner that resembles the communicative practices of human social media influencers. Some virtual influencers possess fully developed fictional lives and complex personalities, and they exhibit human-like emotions, such as sadness or affection, on their social media profiles (da Silva Oliveira & Chimenti, 2021; Stein, Breves & Anders, 2024). Although they are artificially created entities, virtual influencers often attempt to replicate the same types of content and social interactions as their human counterparts.

Research on virtual influencers, however, remains in its early stages and continues to expand, particularly given the novelty of the phenomenon. Existing studies have yielded several important insights. For instance, virtual influencers have been shown to achieve nearly three times higher engagement rates compared to real influencers, suggesting a heightened level of audience interest and interaction with their content. The primary audience for virtual influencers consists predominantly of women aged 18 to 24, who represent approximately 32.1% of the follower base. Generation Z is another significant demographic group, accounting for 11.2% of their audience. Moreover, recent data indicate that 58% of people follow at least one virtual influencer, and 35% believe that these digital entities could influence their purchasing intentions (Baklanov, 2019).

At present, virtual influencers have diversified into several distinct forms. Drawing upon classifications proposed by various authors and an analysis of current market practices, we propose a tripartite typology of virtual influencers based on their visual characteristics

(Kim et al., 2023; Mouritzen, Penttinen & Pedersen, 2023; Wolff, 2022; Yan et al., 2024). These categories are as follows:

*1. Virtual Influencers with Realistic Human Visual*

This type of VI is often nearly indistinguishable from a real human. Their physical appearance is digitally rendered to closely resemble the human form, with high levels of visual accuracy. These influencers typically focus on content related to personal and social life, and they are frequently depicted performing everyday human activities, such as “attending” social events or spending time with friends. They may also appear in content alongside real-life influencers, illustrating a form of hybrid interaction or collaboration. In Slovakia, an example of this type is the virtual influencer Bejby Blue, created by Tatra Banka.

*2. Virtual Influencers with Animated Human Visual*

The second type of VI may be illustrated to resemble a human but is fundamentally an animated character. These influencers exhibit human-like features, yet they appear as 2D or 3D cartoon-like figures. They often exist within self-contained virtual environments (although not exclusively) and usually concentrate on a specific creative domain such as digital art, music production, or entertainment. A prominent example of this category is the virtual pop star Seraphine, known from Instagram and other platforms.

*3. Virtual Influencers with Non-Human Visual*

This type of VI includes personas based on animals, animated objects, or other beings that may or may not exist in the real world - for example, abstract characters. The content shared by this category of virtual influencers typically does not promote a specific lifestyle but rather focuses on particular themes such as environmental issues, comedy, and similar topics. An example of this type is the virtual influencer Nobody Sausage.

Society often develops expectations for how virtual entities should behave, grounded in prevailing social norms. Research indicates that virtual influencers with human-like traits and behaviors can resonate more deeply with audiences, enhancing emotional connection and perceived authenticity. However, some authors also caution that excessive human-likeness in virtual influencers may trigger discomfort - a phenomenon known as the Uncanny Valley (Molin and Nordgren, 2019; Seymour et al., 2020). Understanding these dynamics is crucial for designing virtual influencers that can build trust and engagement while avoiding potential barriers to consumer acceptance.

### **The application and use of source credibility model**

One of the most influential theoretical frameworks in the study of persuasive communication is the Source Credibility Model, which provides a foundation for understanding how message effectiveness is shaped by the perceived qualities of the communicator (Ohanian, 1990). This

model is particularly relevant in the context of influencer marketing, where the communicator (in this case an influencer conceptualized as a specific type of opinion leader) acts as a key intermediary between a brand and its audience. The source credibility model posits that the effectiveness of a message is strongly dependent on the credibility of its source. Opinion leaders in general are considered especially persuasive communicators when they are perceived as trustworthy (Hovland, Janis, & Kelley, 1953). A source's credibility enhances its persuasive power, but it is essential to clarify what the model conceptually entails. As Ohanian (1990) defines it, source credibility refers to the set of favorable characteristics attributed to a communicator, which influence the recipient's acceptance of the message. In essence, it reflects the communicator's perceived personal integrity and sincerity (Pornpitakpan, 2004).

Ohanian (1990) introduced a validated and widely employed measurement scale designed to assess the construct of source credibility. Her conceptualization includes three core dimensions of source credibility: expertise, trustworthiness, and attractiveness.

- Expertise has been defined as the extent to which a communicator is perceived as a source of valid assertions (Hovland, Janis, & Kelley, 1953). It relates to the knowledge, experience, or skills of the opinion leader. However, what truly matters is not whether the communicator is objectively an expert, but rather whether the target audience perceives them as such and whether this perception is effectively conveyed through their behavior and presentation (Erdogan, 1999; Ohanian, 1990).
- Trustworthiness refers to the degree of confidence in the communicator's intent to share statements they genuinely believe to be accurate. It reflects the perceived integrity and sincerity of the opinion leader, as well as the extent to which their message is accepted by the audience (Hovland, Janis, & Kelley, 1953; Ohanian, 1990).
- Attractiveness, on the other hand, is rooted in aesthetics. Individuals are generally drawn to objects or people who exhibit visually appealing characteristics. In the context of opinion leadership, this may manifest in the communicator's physical attractiveness, such as a well-toned physique, or other sensory attributes like a pleasant voice (Sundar, Tamul, & Wu, 2014).

The source credibility model proposed by Ohanian (1990) remains a fundamental pillar for examining source credibility across various contexts. Consumers may be exposed to a high volume of information presented to them (across different platforms), and source credibility is one of the key factors that followers can use to navigate and potentially filter such information (Yan et al., 2018). An opinion leader perceived as highly credible can significantly influence consumer attitudes in multiple ways.

The credibility of opinion leaders is currently a prominent area of research. While analyses of traditional celebrity credibility and its influence on consumer behavior have been conducted for decades, recent scholarly attention has shifted toward exploring these interactions in online environments – focusing on digital influencers. Studies have increasingly emphasized that authenticity and trustworthiness are critical components of influencer effectiveness, as consumers tend to favor individuals perceived as genuine and credible (Audrezet, De Kerviler a Moulard, 2020; Burnasheva & Suh, 2022; Gong & Li, 2017; Le & Aydın, 2022). According to research by Zhou, Yan, and Jiang (2024), the

perceived credibility of virtual influencers may be sensory-specific, suggesting that it can vary depending on the type of product being endorsed. Building upon these findings, it can be posited that credibility is also likely to differ across various types of virtual influencers, particularly because their classification is rooted in distinct sensory attributes. This assumption forms the theoretical basis for our expectation that virtual influencers with different visual representations will exhibit varying levels of perceived credibility and persuasive impact, as their sensory characteristics may differentially align with consumers' cognitive and affective evaluations within digital environments. Given that the visual form of a virtual influencer is the primary point of contact for consumers, differences in realism, animation style, or human-likeness can shape perceptions of trustworthiness, expertise, and attractiveness. These perceptual differences may influence how consumers engage with virtual influencers and accept their endorsements. Since sensory cues can trigger automatic cognitive and emotional responses, examining perceived credibility across visually distinct types of virtual influencers is essential for understanding their effectiveness in digital marketing communication. This is further supported by Media Equation Theory, which posits that individuals respond to media characters and technologies as if they were real people and social actors, applying the same social rules and expectations to these mediated interactions as they would in face-to-face human encounters. According to this framework, human-like features in media stimuli can activate automatic social and cognitive processes, leading users to attribute characteristics such as trustworthiness, competence, and emotional warmth to digital entities that resemble humans, even when they are aware of their artificial nature (Reeves and Nass, 1996). This theoretical perspective underscores why visual human-likeness is not merely an aesthetic attribute but a critical factor in determining the persuasive power and perceived credibility of virtual influencers in digital marketing contexts.

## **Methodology**

The primary objective of this paper is to empirically examine how the visual type of a virtual influencer - specifically, a realistic human visual, an animated human visual, or a non-human visual - influences the overall perceived credibility of these entities among consumers. Overall credibility is conceptualized as a multidimensional construct, composed of attractiveness, trustworthiness, and expertise, as previously outlined. This paper aims to explore consumer attitudes toward the different types of virtual influencers, identify preferences in terms of credibility and examine the impact of visual human-likeness on consumers' perceptions of the credibility of these digital entities.

Our research question focuses on how the visual type of a virtual influencer affects consumers' overall perceived credibility of these entities, and what role visual human-likeness plays in this context. To address this question, a hypothesis was formulated. The hypothesis (H1) examines the main effect of visual type on credibility perception and is stated as follows: There are statistically significant differences in overall perceived credibility among the three types of virtual influencers (VI with realistic human visual, VI with animated human visual, and VI with non-human visual). In line with these considerations, and based on theoretical assumptions, it is expected that virtual influencers with a realistic human visual will be perceived as the most credible overall when compared to their animated human and non-

human counterparts, as human-likeness is anticipated to play a significant role in shaping credibility perceptions.

A quantitative research design was employed, with a structured questionnaire serving as the primary tool for data collection. Ultimately, data were collected and analyzed from 166 respondents, all belonging to Generation Z. This generational cohort was selected because it represents the primary target audience of virtual influencers. Given a sample size of 166 respondents and a 95% confidence level, the margin of error was calculated at  $\pm 7.45\%$ . This indicates that the true population parameter is expected to lie within  $\pm 7.45\%$  of the observed sample values.

As part of the research implementation, theoretical models were employed as the foundational framework for analyzing the examined phenomena. The use of validated models also ensured the methodological reliability and consistency of the study. In this study, analysis was employed to deconstruct the concept of source credibility into its three core dimensions (expertise, trustworthiness, and attractiveness) and to interpret collected data. Synthesis was applied in drawing integrated conclusions from partial findings. Comparison was central to identifying differences in perceived credibility across various visual types of virtual influencers. Through induction, broader insights about consumer trust in VIs were derived from specific patterns in the data. Deduction was used to test predefined hypotheses based on the source credibility model. Lastly, mathematical-statistical methods played a crucial role in the empirical part of the study. Descriptive statistics were used to summarize central tendencies, while composite indices helped capture overall credibility perceptions across multiple items. Independent samples t-tests enabled the evaluation of statistically significant differences in perceived credibility across distinct visual categories of virtual influencers.

## **Results**

In line with the source credibility model (Ohanian, 1990), the present study assessed consumer perceptions of virtual influencers across three core dimensions: expertise, attractiveness, and trustworthiness. These dimensions serve as the theoretical foundation for understanding how audiences evaluate the credibility of communicators - in this case, virtual agents of differing visual types.

The descriptive results, derived using means (M) and standard deviations (SD) from responses on a 7-point Likert scale across four items per dimension, provide a clear overview of how participants perceived each type of virtual influencer across the three credibility dimensions. Specifically, VIs with realistic human visual achieved the highest score in expertise (M = 13.57, SD = 5.71), followed by VIs with non-human visual (M = 12.86, SD = 6.86), while VI with animated human visual received the lowest rating (M = 12.27, SD = 5.96). A similar pattern emerged in the attractiveness dimension, where realistic human visuals of VIs were rated substantially higher (M = 17.99, SD = 6.61) than both non-human (M = 11.45, SD = 6.93) and animated human visuals (M = 10.43, SD = 6.03). In terms of perceived trustworthiness, VIs with realistic human visual again outperformed the other two types (M = 12.07, SD = 5.93), with non-human visuals scoring moderately (M = 11.49, SD = 6.45), and animated human visual of VIs showing the lowest ratings (M = 10.36, SD = 5.74).

Although these three dimensions were assessed separately for each type of virtual influencer, they collectively reflect the broader construct of overall source credibility. This aggregated credibility score was calculated using composite index values and is presented in Table 1. It presents a comparison of the perceived overall credibility of three types of virtual influencers categorized by their visual type. The data are summarized using again mean scores (M), standard deviations (SD), and standard errors (SE) across the respective groups.

<b>Dimension</b>	<b>Type of VI</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>
Overall credibility	VI with realistic human visual	166	43.627	15.397	1.195
	VI with animated human visual		33.054	15.398	1.195
	VI with non-human visual		35.801	17.454	1.355

Table 1 – Perceived overall credibility of virtual influencers by visual type

Source: processed by author

As shown in Table 1, VIs with realistic human visual were rated highest in terms of perceived credibility, with a mean score of 43.627. This suggests that participants are likely to perceive influencers that closely resemble real humans as more credible compared to other types. VIs with non-human visuals received a lower mean credibility score of 35.801, indicating a noticeable drop in perceived credibility compared to realistic human-like avatars. This may reflect reduced consumer trust or difficulty in identifying with non-human figures. VI with animated human visuals had the lowest mean score of 33.054, suggesting that stylized or cartoon-like representations of humans are perceived as the least credible among the three categories. Given that the total credibility score ranged from 12 to 84, the highest mean value of 43.627 for VI with realistic human visuals, corresponds to approximately 52% of the maximum possible score, which reflects a moderate level of perceived credibility. In contrast, the scores for non-human and animated human VIs represent approximately 43% and 39% of the scale's maximum, respectively. These values fall into the low-to-moderate credibility range, suggesting that while visual realism enhances perceived trust, virtual influencers as a whole are still met with a degree of skepticism among consumers.

While descriptive statistics provided an initial overview of perceived credibility across visual types of virtual influencers, a series of independent-samples t-tests was subsequently conducted to determine whether the observed differences were statistically significant and to formally test the proposed hypotheses. The analysis focused exclusively on 3 types virtual influencers. The statistical results are presented in Table 2. All three pairwise comparisons revealed statistically significant differences in overall perceived credibility between the VI types.

Compared variables of overall credibility	t	df	p-value
VI with realistic human visual vs. VI with animated human visual	-9.136	165	$2.272 \times 10^{-16}$
VI with realistic human visual vs. VI with non-human visual	-5.826	165	$2.905 \times 10^{-8}$
VI with animated human visual vs. VI with non-human visual	2.175	165	0.031

Table 2 – Comparative t-Test Analysis of Credibility Ratings Across Virtual Influencer Visual Categories

Source: processed by author

These results again show that VIs with realistic human visuals received significantly higher credibility scores than both animated and non-human VIs. The comparison between realistic and animated human VIs revealed the strongest effect, suggesting a substantial gap in consumer perception. A similarly significant difference was found between realistic human and non-human VIs, though the effect was slightly weaker. Interestingly, the VIs with non-human visuals outperformed VIs with animated human visuals in perceived credibility, with a smaller but statistically significant difference. This suggests that, although both groups lack realistic human appearance, they are not perceived equally in terms of credibility.

## Discussion

The statistical outcomes provide evidence that the visual form of virtual influencers constitutes a critical factor in shaping consumer perception. The findings reveal a distinct hierarchy in perceived credibility across visual types of VIs, with realistic human visuals being rated most favorably, followed by non-human visuals and animated human visual representations. The fact that VIs with realistic human visuals were rated as significantly more credible than both animated and non-human types provides strong evidence for the media equation theory (Reeves & Nass, 1996), which suggests that individuals apply social rules and expectations to mediated agents, particularly when they display human-like features. Realistic visuals likely activate familiar cognitive scripts associated with interpersonal communication, such as trust, empathy, and identification. In contrast, VIs with animated human visuals, despite sharing partly human form, performed the worst in credibility perception. This finding can be attributed to the uncanny valley effect, where characters that are nearly, but not fully human, evoke feelings of unease, eeriness, or distrust. Consumers may perceive this particular type of VIs as “almost real but not quite,” triggering psychological discomfort and reducing their credibility. Surprisingly, VIs with non-human visuals were rated higher than animated ones, despite their lack of human resemblance. This may stem from their perceptual congruence: they do not attempt to mimic human characteristics, and thus avoid the dissonance associated with the uncanny valley. Consumers may evaluate them as authentic and consistent within their category, which positively influences their credibility, albeit to a lesser extent than realistic VIs. These insights underscore the need to find a careful balance in the design of virtual influencers. Hybrid forms that blend robotic and human features appear to function least effectively in fostering

credibility, likely due to their perceptual ambiguity, which creates uncertainty and discomfort among consumers.

Based on the conducted statistical analysis, our hypotheses (H1) is supported. Regarding H1, the results revealed statistically significant differences in perceived credibility among all three types of virtual influencers, confirming that the visual form of a virtual influencer plays a crucial role in how credible they are perceived. Specifically, credibility ratings significantly differed between realistic and animated VIs ( $p < 0.001$ ), realistic and non-human VIs ( $p < 0.001$ ), and also between animated and non-human visual of VIs ( $p = 0.031$ ). In addition, based on the statistical analysis, virtual influencers with realistic human visuals were consistently perceived as the most credible among all types examined, with significantly higher credibility scores compared to both animated and non-human.

While statistical analyses confirmed significant differences in perceived credibility across various visual types of virtual influencers, it is also important to consider the overall strength of these credibility perceptions. The general level of credibility attributed to virtual influencers remained relatively moderate. These results indicate that while VI with realistic human visuals are perceived as more credible than other visual types, none of the VI types reached a high level of credibility overall, meaning, their persuasiveness is also perceived as moderate. All average scores remain near or below the midpoint of the scale, reflecting a general skepticism or cautious acceptance among consumers. In this context, visual realism appears to enhance perceived credibility but is insufficient on its own to establish strong trust. From a marketing perspective, these findings suggest that consumers do not yet fully trust virtual influencers, regardless of visual form. To strengthen their effectiveness as brand ambassadors, we believe it is necessary to move beyond visual design and incorporate elements such as emotional authenticity, message consistency, and relational cues that foster deeper psychological engagement and trust.

Animated human-like VIs, while perceived as the least credible, may still hold strategic value in creative or playful campaigns where entertainment and visual storytelling are prioritized over persuasion. Their distinctive aesthetic can align well with brands seeking to engage younger or niche audiences in contexts such as gaming, art collaborations, or fantasy-driven marketing, where credibility is secondary to creativity and community engagement. However, their lower trustworthiness limits their effectiveness in campaigns requiring authenticity or emotional sincerity, indicating that brands should carefully evaluate campaign goals before employing this type of VI.

Non-human VIs, although less effective than realistic types in building trust, outperformed animated avatars and may serve as engaging alternatives for technology-oriented, innovative, or symbolically driven branding efforts. Their credibility appears less dependent on human comparison and more on maintaining a consistent and coherent brand narrative that aligns with their non-human identity. When their messaging and behavior remain congruent with their visual form, non-human VIs can foster a sense of authenticity within their category, allowing them to effectively capture consumer attention and deliver marketing messages in a creative yet credible manner.

Investigating the credibility of virtual influencers is crucial as it informs the development of effective digital marketing strategies in an environment where consumers

increasingly interact with AI-generated personas. Understanding credibility perceptions helps brands optimize the design and deployment of VIs to enhance trust and consumer engagement. These findings can support further research exploring the interplay between credibility and parasocial relationships, purchasing intentions, and content effectiveness. Additionally, future studies may investigate how dynamic interactions, narrative consistency, and emotional authenticity contribute to building trust with VIs across various platforms, industries, and consumer segments, thereby expanding the practical and theoretical understanding of digital influencer effectiveness.

## **Conclusion**

This study contributes to the growing body of literature on virtual influencers by offering a comparative analysis of perceived credibility across three visual types: VIs with realistic human visual, VI with animated human visual, and VI with non-human visual. Grounded in the source credibility model, the research demonstrates that visual realism enhances consumer perceptions of credibility, particularly in terms of trustworthiness, expertise, and attractiveness. The data revealed statistically significant differences among the three VI types, confirming both proposed hypotheses. Specifically, VI with realistic visual were consistently rated as the most credible, followed by non-human and animated human visuals.

Despite these relative differences, the overall credibility scores for all VI types remained moderate, indicating that consumer trust in virtual influencers is still developing. While visual design plays a crucial role, it is not sufficient on its own to elicit high credibility ratings. This suggests that marketers must look beyond surface aesthetics and incorporate strategies that promote consistency, emotional authenticity, and audience alignment.

Overall, this study highlights the importance of strategic visual identity in virtual influencer marketing while acknowledging existing consumer skepticism. As the technology evolves and audiences become more familiar with digital personas, future research should explore additional credibility-building mechanisms and long-term consumer engagement patterns to support the integration of VIs into mainstream brand communication strategies.

*This article was recommended for publication in scientific journal Young Science by: prof. Ing. Štefan Žák, PhD., MBA, LL.M.*

*This work was supported by the Scientific Grant Agency of the Ministry of Education, Research, Development and Youth of the Slovak Republic and the Slovak Academy of Sciences under the project VEGA No. 1/0682/26, entitled “Emotions, Algorithms, and Decision-Making: The Impact of the Digital Environment on Consumer Behavior in the Era of Artificial Intelligence”.*

## References

1. APPEL, G., et al. *The future of social media in marketing* [online]. Journal of the Academy of Marketing Science, 2020, vol. 48, no. 1, pp. 79-95. Available: <https://link.springer.com/article/10.1007/s11747-019-00695-1> [cit. 2025-11-20].
2. AUDREZET, Alice – DE KERVILER, Gwarlann – MOULARD, Julie Guidry. *Authenticity under threat: When social media influencers need to go beyond self-presentation*. In *Journal of Business Research*. Amsterdam: Elsevier, 2020, vol. 117, pp. 557–569. ISSN 0148-2963.
3. BAKLANOV, Nick. *The Top Instagram Virtual Influencers in 2019* [online]. USA: HypeAuditor, 2019 [cit. 2025-12-11]. Available: <https://hypeauditor.com/blog/the-top-instagram-virtual-influencers-in-2019/>.
4. BURNASHEVA, Regina – SUH, Yong Gu. *The moderating role of parasocial relationships in the associations between celebrity endorser's credibility and emotion-based responses* [online]. In *Journal of Marketing Communications*. UK: Taylor & Francis, 2022, vol. 28, no. 4, pp. 343–359 [cit. 2024-12-11]. ISSN 1352-7266. Available: <https://doi.org/10.1080/13527266.2020.1862894>.
5. CONTI, Mauro – GATHANI, Jenil – TRICOMI, Pier Paolo. *Virtual influencers in online social media* [online]. In *IEEE Communications Magazine*. USA: IEEE, 2022, vol. 60, no. 8, pp. 86–91 [cit. 2024-12-11]. ISSN 1558-1896. Available: <https://doi.org/10.1109/MCOM.001.2100786>.
6. DA SILVA OLIVEIRA, Antonio Batista et al. *"Humanized Robots": A Proposition of Categories to Understand Virtual Influencers* [online]. In *Australasian Journal of Information Systems*. Australia: University of Canberra, 2021, vol. 25 [cit. 2024-12-11]. ISSN 1449-8618. Available: <https://doi.org/10.3127/ajis.v25i0.3223>.
7. ERDOGAN, B. Zafer. *Celebrity endorsement: A literature review* [online]. In *Journal of Marketing Management*, 1999, vol. 15, no. 4, pp. 291–314 [cit. 2024-12-02]. ISSN 0267-257X. Available: <https://doi.org/10.1362/026725799784870379>.
8. GONG, Wanqi – LI, Xigen. *Engaging fans on microblog: the synthetic influence of parasocial interaction and source characteristics on celebrity endorsement* [online]. In *Psychology & Marketing*. USA: Wiley, 2017, vol. 34, no. 7, pp. 720–732 [cit. 2024-12-11]. ISSN 0742-6046. Available: <https://doi.org/10.1002/mar.21018>.
9. HOVLAND, Carl Iver – JANIS, Irving Lester – KELLEY, Harold H. *Communication and persuasion*. 1st edition. New Haven: Yale University Press, 1953. 320 p. ISBN 0300005733.
10. KIM, Eunjin et al. *The next hype in social media advertising: Examining virtual influencers' brand endorsement effectiveness* [online]. In *Frontiers in Psychology*. Lausanne: Frontiers Media, 2023, vol. 14 [cit. 2024-12-11]. ISSN 1664-1078. Available: <https://doi.org/10.3389/fpsyg.2023.1089051>.
11. LE, Kent – AYDIN, Gokhan. *Impact of the pandemic on social media influencer marketing in fashion: a qualitative study* [online]. In *Qualitative Market Research: An International Journal*. UK: Emerald Publishing, 2023, vol. 26, no. 4, pp. 449–469 [cit. 2024-12-11]. ISSN 1352-2752. Available: <https://doi.org/10.1108/QMR-11-2021-0133>.
12. LOU, Chen – KIM, Hye Kyung. *Fancying the new rich and famous? Explicating the roles of influencer content, credibility, and parental mediation in adolescents' parasocial relationship, materialism, and purchase intentions* [online]. In *Frontiers in Psychology*. Lausanne: Frontiers Media, 2019, vol. 10, pp. 2567 [cit. 2024-12-04]. ISSN 1664-1078. Available: <https://doi.org/10.3389/fpsyg.2019.02567>.
13. MOLIN, Victoria – NORDGREN, Sofia. *Robot or Human?—The Marketing Phenomenon of Virtual Influencers*. Uppsala: Uppsala University, 2019. 57 p.
14. MOURITZEN, Simone Lykke Tranholm – PENTTINEN, Valeria – PEDERSEN, Susanne. *Virtual influencer marketing: the good, the bad and the unreal* [online]. In *European Journal of Marketing*. UK: Emerald Publishing, 2023, ahead-of-print [cit. 2024-12-11]. ISSN 0309-0566. Available: <https://doi.org/10.1108/EJM-12-2022-0915>.
15. OHANIAN, Roobina. *Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness* [online]. In *Journal of Advertising*, 1990, vol. 19, no. 3, pp. 39–52 [cit. 2024-12-04]. ISSN 0091-3367. Available: <https://doi.org/10.1080/00913367.1990.10673191>.
16. PORNPITAKPAN, Chanthika. *The persuasiveness of source credibility: A critical review of five decades' evidence*. In *Journal of Applied Social Psychology*. 2004, vol. 34, no. 2, pp. 243–281. ISSN 0021-9029.

17. REEVES, Byron; NASS, Clifford. *The media equation: How people treat computers, television, and new media like real people*. Cambridge, UK, 1996, 10.10: 19-36.
18. SEYMOUR, Mike et al. *Facing the artificial: Understanding affinity, trustworthiness, and preference for more realistic digital humans* [online]. In *Proceedings of the 53rd Hawaii International Conference on System Sciences (HICSS 2020)*. USA: University of Hawai'i at Mānoa, 2020 [cit. 2024-12-11]. Available: <http://dx.doi.org/10.24251/HICSS.2020.574>.
19. STEIN, Jan-Philipp – BREVES, Priska Linda – ANDERS, Nora. *Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness* [online]. In *New Media & Society*. UK: Sage Publications, 2024, vol. 26, no. 6, pp. 3433–3453 [cit. 2024-12-11]. ISSN 1461-4448. Available: <https://doi.org/10.1177/14614448221102900>.
20. SUNDAR, S. S. – TAMUL, D. J. – WU, M. *Capturing "cool": Measures for assessing coolness of technological products* [online]. In *International Journal of Human-Computer Studies*, Amsterdam: Elsevier, 2014, vol. 72, no. 2, pp. 169–180 [cit. 2024-12-04]. ISSN 1071-5819. Available: <https://doi.org/10.1016/j.ijhcs.2013.09.008>.
21. WOLFF, Wietske. *A trend or is the future of influencer marketing virtual? The effect of virtual influencers and sponsorship disclosure on purchase intention, brand trust, and consumer engagement*. 1st edition. Enschede: University of Twente, 2022. 109 p.
22. YAN, Ji et al. *The effect of different types of virtual influencers on consumers' emotional attachment* [online]. In *Journal of Business Research*. Amsterdam: Elsevier, 2024, vol. 177, pp. 114646 [cit. 2024-12-11]. ISSN 0148-2963. Available: <https://doi.org/10.1016/j.jbusres.2024.114646>.
23. YAN, Qiang et al. *How differences in eWOM platforms impact consumers' perceptions and decision-making* [online]. In *Journal of Organizational Computing and Electronic Commerce*. USA: Taylor & Francis, 2018, vol. 28, no. 4, pp. 315–333 [cit. 2024-12-04]. ISSN 1091-9392. Available: <https://doi.org/10.1080/10919392.2018.1517479>.
24. ZHOU, Xiaoying – YAN, Xiaojing – JIANG, Yang. *Making sense? The sensory-specific nature of virtual influencer effectiveness* [online]. In *Journal of Marketing*. USA: Sage Publications, 2023, vol. 88, no. 4, pp. 84–106 [cit. 2024-12-11]. ISSN 0022-2429. Available: <https://doi.org/10.1177/00222429231203699>.
25. ŽÁK, Štefan et al. *Úloha influencerov v procese nákupného rozhodovania spotrebiteľa*. Bratislava: Vydavateľstvo EKONÓM, 2021, 100 p. [6,441 AH]. ISBN 978-80-225-4921-9.

# **Mladá veda**

## **Young Science**

**ISSN 1339-3189**