

Virtual Influencer Marketing: Is It Effective in Engaging Younger Generations?

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Abstract: The market value of global influencer marketing has more than doubled since 2019 (Statista, 2021). The emergence of the so-called virtual influencers (VIs) has redefined the boundaries of possibilities in this “industry” attracting the interest of many brands and raising several questions about their development, ethics, purpose in marketing and perspective. These ‘new’ social media celebrities have also attracted the attention of the scientific community but research has yet to explore how VIs are likely to reshape the practice of marketing. This study aims to better understand the attitudes and reactions of Generations Y and Z (the most attractive target group for influencers) towards VIs—in particular, to find out how VIs are perceived by younger customers and whether VIs can effectively persuade them to buy certain products. Two focus groups were conducted to facilitate an initial response to a relatively new phenomenon, and to gain a social, contextual view of the issue. Our results showed that human influencers still outperform the virtual ones for a number of reasons, ranging from the impossibility of identifying with digital creatures, the inability of the latter to demonstrate the efficacy of the products on themselves and the impossibility, expressed by many respondents, of empathising with entities that appear soulless and largely manipulated by those who—anonously, behind their backs—are only interested in selling products.

Keywords: Virtual influencer, Marketing, Engagement, Young Consumers

1. Introduction

The media consumption patterns exhibited by younger consumers are fundamentally different from those of older generations (Haenlein et al., 2020). As a result, marketers are forced to look for an alternative way to engage with this ‘moving’ target and are increasingly finding allies in social media influencers whose endorsements help brands extend their reach and generate leads (Silva et al., 2020). Global influencer marketing has more than doubled its market value since 2019 and has expanded to other platforms (e.g., TikTok) in addition to Instagram, which still holds the leading position, with 3.8 million of brand-sponsored influencer posts (Statista, 2021).

The emergence of the so-called VIs has redefined the boundaries of possibilities in the ‘industry’ of influencer marketing (Sands et al., 2022). As they grow in popularity, these ‘new’ social media celebrities have also attracted the attention of the scientific community (e.g., Arsenyan and Mirowska, 2021; Moustakas et al., 2020; Stein et al., 2022), but research is yet to examine how VIs are likely to reshape the practice of marketing (e.g., Sands et al., 2022). How are VIs perceived by the younger generations? Are they considered as credible as their flesh-and-blood counterparts? Are they really able to inspire trust in younger audiences and to influence their purchasing process?

Given the relative novelty of the phenomenon, the study adopted a qualitative methodology. Two focus groups allowed us to find the initial answers to the research questions and to gain a better understanding of the perceptions and reactions of the younger generations towards VIs.

The results revealed a relatively low level of attraction towards VIs who are perceived as incapable of developing a socio-emotional relationship with their followers and influencing their purchasing decisions. Some concerns were also expressed about the development of the phenomenon.

2. Influencer marketing and VIs

Social media influencers (SMIs) have become an important asset for advertisers. They incorporate products—and endorsements—into posts or videos shot in real-life settings, increasing their trustworthiness as they appear to have tried the products themselves (Schouten et al., 2019; De Veirman et al., 2017). As they appear more relatable to their specific audiences, they tend to be perceived as more trustworthy and credible than conventional celebrities (e.g., Sokolova and Kefi, 2019). Previous studies have reported that the congruence between an influencer’s image and followers’ interests represents a likely determinant (Choi and Rifon, 2012;

Casaló et al., 2020), as customers establish a positive relationship with their followed influencers because they represent an idealised version of themselves or because they share similar interests (Boerman, 2020; Choi and Rifon, 2012).

Within the ever-evolving landscape of social media influencers, VIs have become increasingly popular. A VI can be ‘an entity—human-like or not—that is autonomously controlled by artificial intelligence and visually represented as an interactive, real-time rendered being in a digital environment’ (Sands et al., 2022) but can also be an avatar, an imaginary work controlled by humans (De Brito-Silva et al. 2022); ,that is, an ‘artificial media persona (...) that is typically characterised by a computer-generated face, which may either be connected to a digital body or superimposed on a real human body’ (Stein et al., 2022: 2).

These characters have attracted interest on behalf of many brands (Vuitton, Dior, Prada, Nike, Samsung, etc.) and have achieved great popularity (e.g., Lil Miquela has almost three 3 million Instagram followers).

Previous research has outlined the key benefits that brands can experiment with when creating (or partnering with) VIs. By working with a VI, companies are able to:

- Rely on a constantly available partner with an unparalleled ability to adapt (Conti et al., 2022).
- Create transmedia storytelling that allows a brand to tell a single-story across multiple platforms and the metaverse (Sands et al., 2022).
- Capitalise on higher engagement rates compared to human influencers and effectively capture the attention of young consumers (Naumann and Daubenbüchel, 2021).
- Create their own virtual ambassadors, ensuring that the influencers’ backstories, language, tone of voice, values and personalities are always consistent with those of the brand (Sands et al., 2022; Guthrie, 2020).
- Protect the brand’s reputation from the misconduct of human influencers and maintain complete control over the words and behaviours of VIs (Conti et al., 2022).

However, these effects—and others related to generating social conversation and driving sales (Kim and Kim, 2021)—can only be achieved if the influencer is perceived as credible, attractive, trustworthy, and knowledgeable in the field of the endorsed product (Djafarova and Rushworth, 2017). Influencer credibility is determined by two components: trustworthiness (related to perceptions of honesty, integrity and believability) and expertise (related to the relevant knowledge, competencies and skills the endorser is perceived to possess), both of which play an important role in influencing purchase behaviour (Djafarova and Rushworth, 2017), with a particular impact on product intention (Schouten et al., 2020). In addition to ‘source credibility’, studies on endorsement marketing also highlight the role of source attractiveness, which has been described as consisting of two dimensions: the physical attractiveness of the source and homophily (the perceived similarity in beliefs, values, experiences and lifestyles of the communicator by the receiver). The latter facilitates the formation of long-term trust in the follower-influencer relationship, while the former (physical attractiveness) only affects the initial follower’s judgement (Kim and Kim, 2021).

With specific reference to the physical aspect of the source, the first studies conducted on VIs discussed the potential and pitfalls of the anthropomorphic appearance of the VIs. While some streams of research argued that consumer-virtual agent interactions are considered as similar to human interactions (Edwards et al., 2019) as consumers tend to anthropomorphise machines (Feine et al., 2019), other research (Wiese and Weiss, 2020; Arsenyan and Mirowska, 2021; Sands et al., 2022), in line with the ‘uncanny valley’ model (Mori, 1970), warned of the dangers of a very human-like visual appearance of the VIs, which are frequently perceived more negatively than agents that are unambiguously human or nonhuman. In this regard, the literature has highlighted the need for creators to strike a delicate balance, adding the cues associated with human traits—which are needed to elicit sympathetic social behaviour from the followers (para-social responses)—until the right level of anthropomorphism is achieved without provoking perceptions of disorientation, fear, and creepiness (Stein et al. 2022, Sands et al., 2022; Miao et al., 2022). In addition to this challenge, VI creators must also avoid the risk of presenting unrealistic beauty standards and body-type expectations (Moustakas et al., 2020), as VIs are predominantly female. More generally, other challenges associated with VI marketing have been described in the literature (e.g., Moustakas et al., 2020) as being related to a lack of authenticity and trustworthiness, the need for large investments, challenges with legality and the risk of losing popularity due to poor execution. With regard to this last aspect, one of the key challenges is the ability to craft an engaging storyline that humanises VIs and allows them to develop an emotional connection with their followers.

3. Methodology

Given the exploratory nature of the research, a qualitative inductive methodology was adopted. Focus groups allowed for the collection of qualitative data (in terms of attitudes, feelings, experiences and reactions towards VIs) and encouraged participants to share their perceptions, facilitating joint-meaning construction. The study focused on young women as the majority of influencers target a similar female audience (Schouten et al., 2020), including avatar influencers who have a predominantly female public (De Brito-Silva et al., 2022). Two focus groups were conducted synchronously online (the table in the Appendix shows the profiles of the participants). The digital environment allowed for a number of advantages, including flexibility in scheduling discussions and the participation of individuals from remote locations (Stewart and Shamdasani, 2017). Recommendations from the literature were followed in defining the groups (Catterall and Maclaran, 2006; Morgan, 1996; Richards and Morse, 2012). The two groups consisted of 8 people each. In terms of socio-demographic homogeneity, the participants were young Italian women (who had reached the age of majority), belonging to generations Y (1981–1996) and Z (1997–2012). To avoid the risk of too much homogeneity leading to single-mindedness (or ‘groupthink’), each focus group had a mixture of Gen Z and Gen Y participants.

Before starting the discussions, both of which lasted approximately one hour and forty-five minutes, participants were assured of anonymity, with the interviewer stressing the importance of respecting each participant’s point of view. Participants were encouraged to speak freely about their perceptions and were shown three illustrative examples of VIs to prompt and stimulate discussion: *Lil Miquela*, a hyper-realistic, human-like VI; *Nonoouri*, a cartoon-like VI and *Nefele*, who presents herself as ‘the first imperfect virtual woman’ (Table 1).

Photo and video posts from Instagram of these three VIs were used to stimulate discussion. Posts related to cosmetics and fashion were chosen because VIs most often partner with cosmetics and lifestyle brands (Moustakas et al., 2020). Instagram was chosen as the focal social media platform because it is still the most used platform by influencers (Casaló et al., 2020). In terms of the interview protocol, a ‘funnel-style’ guide was adopted, moving from broad participant-oriented questions to more specific research-oriented questions (Morgan, 2006). Following a brief general discussion about social media influencers, the VIs phenomenon was introduced. After showing the content (pictures, videos, texts) created by the three mentioned VIs, the participants were asked some open questions (e.g., ‘What are your thoughts when you see this post?’) and later asked some directed questions (e.g., ‘Would you trust?’, ‘Why?’, ‘Would you follow Lil Miquela?’, ‘Why?’).

The audio-recorded group discussions were transcribed verbatim, reconstructing the structure of the participants’ interventions, and significant shifts in tone were noted in the transcripts. The analysis proceeded through a holistic reading of the transcripts and open coding to identify the main categories in the data (Bazeley, 2013).

Table 1. The profile of the virtual influencers considered during the focus groups

Virtual Influencer	Creator	Bio	Interests/ type of posts	Collaborations	Instagram Stats (January 2023)
	Created by Brud, an American advertising agency, in 2016	Influencer, singer, activist, and digital art model. 19-year-old robot living in Los Angeles	She posts about her daily life, causes she supports (e.g., actions in favour of LGBT rights), and products she consumes	Chanel, Calvin Klein, Prada, Ikea, Samsung, etc.	1.246 posts 2.9 million followers
	Created in 2018 by the creative agency Opium Effect, Munich, Germany	Created in 2018 by the creative agency Opium Effect, Munich, Germany	She follows a vegan lifestyle, doesn't wear furs, and champions sustainable fashion. She balances her platform between social good and promotion.	Louis Vuitton, Dior, Versace, Gucci, Marc Jacobs, Yves Saint Laurent, Miu Miu, etc.	1.478 posts 402.000 followers
	Created at the end of 2021 by three young start uppers in Turin, Italy	She defines herself as “the first imperfect virtual woman”	Her posts combine commercial content with reflections on topics related to inclusion, the beauty of imperfections and prejudices.	Apple, Sprite, etc.	63 posts 3.298 followers

4. Results

4.1 Socio-emotional connections and the (un)attractiveness of VIs

Almost all the participants found the idea of interacting with VIs unattractive. The inability to feel emotionally engaged was the main reason given to justify this response. Participants felt that they could not develop a socio-

emotional relationship with the VIs as easily as they could do with the human influencers they had chosen to follow.

There are [human] influencers who know how to relate to others, bring out their human side... and you really get the impression of talking to an acquaintance. Human influencers engage you in their life and it is as if you consider them part of your group of friends. The virtual influencer does not really attract me. (Natalia)

I think that the interaction with a virtual influencer would be much more artificial. (...) The strength of human influencers is human contact. Empathy...the influencer empathizing with followers and followers empathizing with the influencer...this builds a relationship that, however fictitious may be, favours both the fame of the influencers and their ability to promote their own ideas, the products... (Sara)

The impossibility of establishing and maintaining a socio-emotional connection with the VIs emerged as a major deterrent in the perception of most of the participants who were concerned at the idea of interacting with a 'soulless entity', created specifically for the commercial promotion of products and manipulated by a team of creators.

I would not follow Lil Miquela, because she seems too artificial to me. Even if in everything she seems a real woman, this idea springs into my head: there is no soul behind her... she is driven by those who have an interest in advertising specific products. (Natalia)

In the case of virtual influencers, we are unable to perceive the person who is steering them... I really have a distrust there regardless. Maybe I would never follow them. (Erika)

I would hardly follow a virtual influencer. The question that came to my mind watching both Lil Miquela and Noonooori is: do we really need to interact with... whom? Who do we interact with? (Antonella)

Participants showed that they were aware that even a human influencer is backed by a team of experts and a promotional agenda, but they were still able to identify many points of difference between a VI and a human one. The most important aspect relates to homophily, the similarity that followers perceive between their own beliefs, values and experiences and those expressed by the influencer. This feeling of affinity—between the self and a human influencer who lives 'our same problems' and believes in 'our same values'—generates greater engagement, which is also generated by the influencers' ability to interact with their followers beyond the mere presentation of a product/service, by remaining active on their accounts and posting content that conveys certain values or deals with certain topics of interest.

Some influencers advertise specific products, but at the same time address certain issues and therefore involve you on different levels than simply advertising a product. (Maria)

[Human influencers are different] because of the spontaneity of communication, the values they transmit... If they only sponsor the product, I think that not much empathy is created. Instead, I notice that some influencers, even when they do not advertise products, still try to stay active on their profile, to interact with their followers. I think this increases empathy. (Valery)

I follow some influencers, who do not just advertise a product or even their own life, but behind whom there is also something else, some cultural theme, of a slightly higher level. So, I wonder what there could be behind a robot... (Antonella)

I follow some people [human influencers] who have things in common with me. (Carla)

Human influencers take sides or they make the people who follow them think about the importance of certain topics. For example, I have seen that X [name of a human influencer] often takes sides to defend human rights. Never mind that it is probably led by a team, because in any case it is normal that there is a team behind it, but anyway people feel much more attracted, they feel much more understood by a person in the flesh, compared to the case in which a topic is treated by a robot... What could it [the robot] have ever experienced? (Serena)

Regarding value commonality, participants expressed some scepticism about posts where the VIs declared their support for certain social causes (e.g., Black lives matter, sustainability, etc.). The non-humanity of the robot influencer—and its impossibility to experience real life—was perceived as the main obstacle to verifying the consistency between stated values and actual behaviour, and this undermined the declaration of values that appeared to be instrumental in gaining public approval.

A human person puts his face into it... an actual human being who exhibits the values she believes in on her bulletin board, then will have to live consistently with those values. In the case of a robot, it seems like an ad hoc operation to get some goodwill from the public. (Erika)

Based on what emerged from the focus groups, the only reasons that would lead to following a VI were curiosity and fun, two elements that are unlikely to sustain interest in a VI.

I still see them [VIs] as unreliable: I would not trust them though I would follow one out of curiosity. (Martina)

[Virtual Influencers] are somewhat comparable to the commercials of the past decades. For example, there was an advertisement for a detergent whose protagonist was a cartoon, a little man, not a natural person. I was a child, but I remember it was fun. There was this aspect of lightness. Probably a virtual influencer conveys a certain message with more levity than a flesh-and-blood one. (Valery)

4.2 Credibility of VIs and their impact on purchase decisions

With regard to the two components of the source credibility, participants did not show any particular concern about the VIs' expertise but expressed many doubts about the trustworthiness of their messages which, in their perception, was invalidated by the inability of VIs to demonstrate on themselves the effects of the products they were promoting. According to respondents, the fact that the human influencers can 'physically' try the product and show on themselves, on their own skin, the 'before' and 'after' effects of its application is important not only in terms of demonstrating the effectiveness of the product but also as a source of greater identification—and socio-emotional bonding—with the influencer.

Since we can assume that there are experts behind the virtual influencer, I believe that the knowledge does exist and that in some way it is communicated through these virtual influencers. However, they cannot have other characteristics, such as product testing, demonstration of the product's effectiveness. (Maria Antonietta)

Can a face, a physiognomy that does not actually exist, be instructive? That manga [Noonnoori] does not have dark circles, but I saw her applying eye cream. What is the point of promoting an eye contour, if you do not have problematic dark circles on which that product would act? (...) There is no a "before" and an "after" or, at least, it is not a real before and after. (Milena)

The robot is ultimately created to advertise a product/service, but (...) what does it could do with it? (...) The human influencer can demonstrate how a product/service can solve a problem of mine, can also be useful in my daily life. Many influencers show the 'before' and 'after' of the products they use... And maybe I see myself in that situation, in that action... Not in the case of the robot. (Natalia)

For me a virtual influencer is like a newspaper page (...) At least the human ones give you a sort of "demonstration". They advertise a product and show how to use it, if it works... (...) Human influencers mirror our daily lives more. Maybe they do things that we do too. I see them as more credible than the virtual ones. (Angela)

Participants' attitudes towards the idea that VIs could effectively influence their purchase process were lukewarm with many respondents indicating that they are generally not particularly influenced—for the purposes of the purchase process—even by flesh-and-blood influencers whose advice they use only as an initial input, a starting point for finding other information, or as a more important element, but when combined with other benefits (such as, a discount code to try the promoted product). On the other hand, some respondents argued that in their opinion, a human influencer remains more persuasive in the purchase process mainly because she can show her personal experience (in some cases, providing before and after pictures) and can interact with her followers, answering specific questions, providing clarifications and removing doubts.

If I had to make a purchase, I would be influenced, but not because I believe in the influencer. In general, even when I see sponsorships from human influencers, I still read other reviews before buying. I would also do the same with a product sponsored by a virtual influencer. So, there would be no difference, if I had to make a purchase. (...) Maybe, if she offered a discount code... This could be the main element to make me look for more information. (Rossana)

Human influencers have a greater ability to convince the user to buy a particular product or to try it, precisely because maybe tell what they experienced in using it or maybe they show it. Very often they also answer questions, so they could also resolve any doubts and lead the consumer to buy a particular product. I think there is a bit of a difference here. (Alexandra)

4.3 Physical appearance and the Uncanny Valley

To deepen our understanding of participant's attitudes/reactions to the different typologies of VIs (human-like and anime-like), which are capable of embodying different types of beauty, participants were exposed to images of Lil Miquela (human-like VI), Noonooori (anime-like VI) and Nefele ('the first imperfect virtual woman'). In most cases, the very human physical appearance of Lil Miquela was considered as destabilising and disturbing and provoked strong reaction, giving the impression of something created to deceive users' minds. In contrast, the manga appearance of Noonooori was generally perceived as more reassuring, less deceptive, more cartoonish (and therefore more comforting) and robotic.

The resemblance to humans scares me. (Martina)

Lil Miquela is so similar to human beings and that's pretty destabilizing. (Sara)

Lil Miquela scares me, because she looks more human. (...) I see Noonooori as a slightly more fun way to communicate, to advertise a product. (Maria Antonietta)

[Regarding Noonooori] It bothers me less than the previous virtual influencer [Lil Miquela], who has connotations much closer to a human...when they are very similar to humans...I do not find them trustworthy... this makes me think fearfully about the future, about robots, about the fact that everything is being robotized. It scares me a little. (Erika)

Noonooori caught my attention much more than Lil Miquela, perhaps because she seems like a nice character to me. She gets my attention and I do not feel like she is fooling my mind. In the other I see a sort of mental deception. (...) Instead, in this case I have a clear perception of what I am seeing. I am aware that I am seeing something that is not real. (Natalia)

Noonooori gives me less the impression that there is something/someone behind her. (Maria)

Although the physical appearance of the anime-like influencer was seen as more reassuring, this consideration did not necessarily translate into greater persuasiveness, even in the perceptions of those respondents who had expressed an appreciation—and relative preference—for this type of VI.

In terms of influence on my purchasing decisions, I do not trust this doll [Noonooori], as well as other animal or robot virtual influencers. (Erika)

Noonooori looks more like a cartoon to me. She does not inspire my confidence at all, honestly. I prefer Lil Miquela at this point if I must choose. (Angela)

While Lil Miquela reassured me (...), I do not find reality in Noonooori. Therefore, I could hardly be persuaded to buy, for example, an item of clothing worn by Noonooori. I perceive her just like a cartoon (...). I find her too detached from reality and therefore unconvincing me. (...) (Alexandra)

With reference to the physical appearance, the Instagram bio of the third VI, Nefele, generated a lot of discussion (Table 2). Nefele's declared 'imperfection' initially provoked a strong, angry reaction from some participants who saw her presentation (the 'first imperfect virtual woman', 'imperfection is beauty') as a mere attempt to gain easy consensus and the goodwill of the public, instrumentally riding the wave of a highly topical issue. Although some participants appreciated the idea of moving away from unrealistic beauty standards, they saw the risk of sending the wrong message through these words, of making people perceive as imperfection something that is not. Other participants appreciated the attempt to raise public awareness about respect for diversity and saw the communication about Nefele as a (provocative) way to achieve this goal. In the end, everyone agreed on this point: When we talk about these issues, it is never enough. VIs like Nefele can contribute to the fight against unrealistic beauty standards (to whose construction many human influencers have contributed greatly through the widespread use of Photoshop) and images like those visible in Nefele's posts and bio must be used without underlining the so-called 'imperfection' with words.

4.4 Feelings and perceptions about the present and future of virtual influencers

When participants were asked to express their perceptions and feelings about the present and future of VIs, different visions emerged. For some participants, VIs can be seen as a temporary phenomenon—driven by brands’ desire to experiment with innovative solutions—that may have a greater influence on the teenage audience but generally will not have a strong impact on the purchase process.

I think Virtual Influencers can be a nice and innovative way to advertise a product, to communicate the innovative side of the brand. But I do not see them as so strategic for the success of the brand (Erika)
In my opinion, for the brand, for the brand image... VIs offer a great opportunity, because they can be leveraged on various platforms, including the Metaverse (Maria Antonietta).
In my opinion, brands are now turning to virtual influencers because they are something very "fresh", something new. Brands are experimenting with VIs to understand their effects. Then maybe the user looks at VIs' content, maybe likes that content and then does not follow them. But I am convinced that, however special these virtual influencers may be, to promote a product/service, you need to give them a soul. There must be a soul behind them. As particular as these virtual influencers may be, a product sponsored by them will never make me perceive what real influencers can make me perceive (Natalia)

Table 2. Reactions to Nefele’s bio

An instrumentalization of a highly topical issue	A good idea conveyed with a wrong message	Right. I appreciate this attempt to present a realistic image	An attempt to raise awareness on important themes
<p>- She [Nefele] bothers me a bit... because, as a virtual influencer, she was purposely created imperfect and this is clearly an exploitation (...). (Antonella)</p> <p>- Why do they have to remark that Nefele is imperfect? (...) Why should I consider a person with psoriasis imperfect? (...) If you highlight this, I get the message that you want to appear inclusive, but deep down you do not believe it. (Natalia)</p> <p>- It bothers me that the issue of imperfections almost becomes a marketing strategy. We must remember that this is a fictitious character and this makes her different from a human influencer that suffered this discrimination from society. She [Nefele] simply uses that imperfection simply to acquire followers. (Sara)</p>	<p>- By saying "imperfection", they underline the imperfection that is not actually there. I really struggle to understand which imperfection they refer to. The idea of creating an image different from the ones we always see is right but the message is wrong (Martina)</p> <p>- The only thing I noticed (...) is the fact that she had vitiligo. I do not think it is imperfection... The message ends up emphasizing something that would be normal for me to see. (Maria Antonietta)</p> <p>- In my opinion, it is right to create a virtual influencer who is not perfect. What is wrong is highlighting the imperfection. If you really want to 'normalize' the imperfection (...) why do you point out that there is an imperfection? (Serena)</p>	<p>- I like Nefele, because I see her as more real. I like her better, precisely because we are talking about an 'imperfect' woman. She has something in common with me, because I do not feel perfect, like everyone else I suppose (Carla)</p> <p>- Yes, we [young women] can fight as much as we want, with the idea of appreciating our defects, trivially starting from acne, but then we let ourselves be greatly influenced by unrealistic beauty standards. This imperfection [declared by Nefele] is a provocation. I like the idea. Yes, in the end, I think that everyone is exploiting, even the flesh-and-blood influencer who claims to promote the LGBT community... There is a bit of instrumentality behind it, but in this case, I do not really see much of the bad. (Erika)</p>	<p>- I do not see it as exploitation, quite the contrary. It is never enough...to open people's eyes. Never enough. I imagine that the goal that is behind Nefele is to subvert the image that has been proposed on social media so far. (Grazia)</p> <p>- Nefele wants to communicate what is imperfect according to other logic. She is not considering that vitiligo is an imperfection but imperfect is the way it is commonly experienced and considered in our society...I personally follow many girls affected by vitiligo or by other physical defects...they say that they have had a lot of difficulty in being appreciated, in our society... there are people who support them, but, unfortunately, there is a vast majority of people who still hurt them. (Erika)</p>

Other participants expressed—with varying degrees of apprehension—the idea that VIs were a phenomenon destined to continue, even with the further development of the Metaverse, a scenario that was seen as more worrying than intriguing.

I believe that unfortunately this phenomenon will persist over time. I imagine that each of us will create an avatar, that we will go further and further, and that influencers will also have their avatar... A similar scenario scares me a lot becoming prey to everything that is not real. I think we are going to get confused, and we already do, about what is real and what is not real. Even human influencers contribute to this...how much reality is there behind an influencer who constantly posts his existence? I wonder how much reality I see in the posts that continuously advertise a lifestyle that standardizes the values that everyone has. I am scared if I think that one day my children, and future generations will be able to live exclusively on this (Grazia)
I think that the VIs phenomenon is linked to adolescence and, like all things that are done in adolescence, it is transitory in the life of an individual. It scares me up to a certain point, because then teenagers grow up, understand certain things, and leave that world behind. But it scares me to think that kids can grow up with those role models (...) and the consequences that there might be (Maria)

5. General discussion

The study aimed to improve the understanding of young women's attitudes and perceptions towards VIs. In contrast to previous findings, our results showed a relatively low attractiveness of VIs compared to human influencers. As mentioned in the literature review, potential benefits of using VIs include higher engagement rates compared to human influencers (e.g., Sands et al., 2022) and their ability to elicit para-social responses from online audiences that do not appear significantly different from those of a flesh-and-blood influencer (Stein et al., 2022), providing support and increasing feelings of connectedness (Felnhofer et al., 2019). Our findings show that human influencers still outperform virtual ones for a number of reasons, the most important of which are as follows:

- *VIs appear as soulless entities, orchestrated by a hidden manipulator.*

Firstly, the impossibility of feeling a socio-emotional connection (which is what respondents are interested in when they choose to follow an influencer) and resonating with an entity that cannot experience real life. This hinders the establishment of a 'human' contact, an empathic relationship with creatures that seem soulless and, worse still, largely manipulated by those who—anononymously, behind their backs—are only interested in selling products. This association of VIs with manipulative fiction was widely shared by the participants. Although many of them also perceived something fictional in the behaviour of human influencers (and were aware of the existence of a team behind them), they were more forgiving of flesh-and-blood influencers, with whom many of them felt an affinity ('she lives my same problems'). The lower perception of 'manipulative' intent on the part of human influencers may be due to the consideration that the team working for the human influencer is acting in support of an individual who is directly putting her face and stakes her reputation on the content shared with her followers whereas the team that created (and manages) the VI is acting as a 'hidden' orchestrator, safely holding the strings of a digital puppet with a human appearance. In this perspective, even the social commitment proclaimed by the VI loses its meaning and is perceived as a ploy to gain consensus and followers, since the lack of 'real' life makes it impossible to verify the congruence between the values proclaimed and those lived.

- *Identification mechanisms get stuck and persuasiveness is lost*

The other-directed existence of the VI (and the uncertainty about who is behind this creature) hinders the development of the identification mechanisms and does not allow to verify whether the image of the influencer is in line with the individual ideal self, an aspect that, according to the logic of the self-celebrity congruence model (e.g., Choi and Rifon, 2012), is essential to obtain a favourable consumer attitude towards the product and to increase the purchase intention (Shan et al., 2020). In the absence of this congruence, evaluative outcomes regarding brands/products will not be influenced by the meanings and the associations that the influencer is intended to convey and the so-called parasocial identification, an imaginary relationship with the endorser (Choi and Rifon, 2007), cannot be formed as it happens with a human influencer who is perceived by some respondents as 'part of my group of friends'. However 'real' the influencer may seem ('she really seems to be a woman'), her inability to experience life makes her untrustworthy because she cannot 'demonstrate on her body' how the promoted product can solve a follower's problem (by showing the 'before' and 'after' in a credible way). Despite the higher engagement rates and the similar para-social responses found in previous studies on VIs (e.g., Stein et al., 2022; Sands et al., 2022), it seems that they are still not persuasive and not decisive in defining purchase decisions, which means that they have less impact than human influencers.

Regarding the issue of the physical appearance of the VIs, contrary to studies claiming that anthropomorphic embodiments of virtual agents elicit sympathetic social behaviour (e.g., Luger and Sellen, 2016; Tan and Liew, 2020), our results confirm that extreme resemblance of VIs to humans elicits negative emotional responses such as fear and disorientation (e.g., Wiese and Weiss, 2020; Arsenyan and Mirowska, 2021; Sands et al., 2022). When confronted with a VI that closely resembled a 'real woman', some respondents felt fearful of being subjected to a 'mental illusion' and stated that they found a blatantly artificial, cartoon-like character more reassuring.

Always related to the physical appearance of VIs, another aspect that has been discussed is the notion of beauty. While some previous studies involving experts have warned about the risk of presenting unrealistic beauty standards through VIs (Moustakas et al., 2020), to the best of our knowledge, the reaction of consumers to VIs depicting imperfections has not been considered so far. Our results show that, although young women agree in principle with the idea of showing influencers with imperfect appearances (going far from the unattainable beauty standards often created with Photoshop), the explicit declaration of imperfection made by the VI annoys them and raises suspicions of instrumentalisation, producing effects opposite to those probably expected by the creators.

5.1 Managerial implications

This study not only contributes to research by helping to understand the phenomenon of VIs from the perspective of potential followers, but also has some implications for companies interested in using VIs in their marketing activities. To increase the chances of success, it is not enough to give VIs a fully developed fictional life and a distinct personality. If consumers are not fully aware of the origin of the content created, they will not be truly influenced and will perceive the VI as a mere advertisement, providing an initial input that needs to be confirmed or incentivised (e.g., peer recommendations, discount codes, etc.) before leading to a purchase decision. Another aspect that companies should consider before choosing a VI as a partner relates to the success metrics. Engagement rate, as it is commonly measured (i.e., by the number of views, likes and comments), is an insignificant indicator of an influencer's true engagement capacity. Initial curiosity and a kind of fascination associated with the novelty effect can inflate the measure of the VIs' engagement rate without corresponding to a real interest on the part of the consumer to continue to stay in touch, interact, feel engaged and connected from a social-emotional point of view. Furthermore, when attempting to achieve a human-like appearance with the VIs they use, companies should be mindful of the uncanny valley effect to avoid unintentional eeriness and creepiness. Cartoon VIs may be a better alternative, but their suitability for a particular brand needs to be assessed.

5.2 Limitations and further research

This research has some limitations which are briefly mentioned below. First, the endorser-product congruence should be taken more into account, and this suggests the possibility of future studies focusing on product categories other than the two examined here (cosmetics and clothing), which are more dependent on a real human body (and on personal fit). There may be other types of products, e.g. technical ones, that are perceived as more congruent with a digitally generated creature whose endorsement may therefore be perceived as more credible in other contexts. Future studies on VIs are therefore challenged to vary not only the product category but also the platform under analysis (e.g., TikTok vs. Instagram); the gender and nationality of the participants (we only included young women from a single country) and the type of VI (e.g., 'incarnate' VIs, working for a single company vs. so-called 'innate' influencers who endorse various brands/product categories).

Finally, although two focus groups are not enough to generalise, the results of the current study are an important input to the construction of a quantitative survey to be conducted in the future to better understand the effectiveness of VIs and to get a sharper picture of how young (and not so young) people perceive them.

References

- Arsenyan, J. and Mirowska, A. (2021) "Almost human? A comparative case study on the social media presence of virtual influencers", *International Journal of Human-Computer Studies*, Vol. 155, 102694.
- Bazeley, P. (2013) *Qualitative data analysis: Practical strategies*, Sage, London.
- Boerman, S. C. (2020). "The effects of the standardized Instagram disclosure for micro and meso-influencers". *Computers in Human Behavior*, Vol 103, pp 199–207.
- Casaló, L.V., Flavián, C. and Ibáñez-Sánchez, S. (2020) "Influencers on Instagram: Antecedents and consequences of opinion leadership", *Journal of Business Research*, Vol. 117, pp 510-519.
- Catterall, M. and Maclaran, P. (2007) "Focus groups in marketing research". In R.W. Belk (Ed.), *Handbook of qualitative research methods in marketing* (pp 255-267), Edward Elgar, Cheltenham.
- Choi, S.M., and N.J. Rifon. (2012). "It is a match: The impact of congruence between celebrity image and consumer ideal self on endorsement effectiveness". *Psychology & Marketing* Vol. 29, No. 9, pp 639–50.
- Conti, M., Gathani, J. and Tricomi, P.P. (2022) "Virtual Influencers in Online Social Media", *IEEE Communications Magazine*, Vol. 60, No. 8, pp 86-91.
- de Brito Silva, M. J., de Oliveira Ramos Delfino, L., Alves Cerqueira, K. and de Oliveira Campos, P. (2022) "Avatar marketing: A study on the engagement and authenticity of virtual influencers on Instagram", *Social Network Analysis and Mining*, Vol. 12, No. 1, pp 1-19.
- De Veirman, M., Cauberghe, V. and Hudders, L. (2017) "Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude", *International Journal of Advertising*, Vol. 36, No. 5, pp 798–828.
- Djafarova, E. and Rushworth, C. (2017) "Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users", *Computers in Human Behavior*, Vol. 68, pp 1-7.
- Edwards, C., Edwards, A., Stoll, B., Lin, X. and Massey, N. (2019). "Evaluations of an artificial intelligence instructor's voice: Social identity theory in human-robot interactions". *Computers in Human Behavior*, Vol. 90, pp 357-362.
- Feine, J., Gnewuch, U., Morana, S. and Maedche, A. (2019). "A taxonomy of social cues for conversational agents". *International Journal of Human-Computer Studies*, Vol. 132, pp 138-161.

- Guthrie, S. (2020) "Virtual influencers: More human than human". In S. Yesiloglu and J. Costello (Eds.) *Influencer Marketing: Building Brand Communities and Engagement*, Routledge, New York.
- Haenlein, M., Anadol, E., Farnsworth, T., Hugo, H., Hunichen, J. and Welte, D. (2020) "Navigating the New Era of Influencer Marketing: How to be Successful on Instagram, TikTok, & Co.", *California Management Review*, Vol. 63, No. 1, pp 5-25.
- Kim, D.Y. and Kim, H.Y. (2021) "Trust me, trust me not: A nuanced view of influencer marketing on social media", *Journal of Business Research*, Vol. 134, pp 223-232.
- Miao, F., Kozlenkova, I.V., Wang, H., Xie, T. and Palmatier, R.W. (2022) "An emerging theory of avatar marketing", *Journal of Marketing*, Vol. 86, No. 1, pp 67-90.
- Morgan, D.L. (1996) *Focus groups as qualitative research (Vol. 16)*, Sage, Thousand Oaks.
- Mori, M. (1970) "Bukimi no tani" [The Uncanny Valley], *Energy*, Vol. 7, pp 33-35.
- Moustakas, E., Lamba, N., Mahmoud, D. and Ranganathan, C. (2020) "Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers". In *Proceedings of the 2020 International Conference on Cyber Security and Protection of Digital Services*.
- Naumann, S. and Daubenbüchel, C. (2021). Virtual influencers - The next hype in influencer marketing? Available at <https://www.ond.com/news/virtual-influencers-the-next-hype-in-influencer-marketing/>
- Richards, L. and Morse, J. M. (2012) *Readme first for a user's guide to qualitative methods*, Sage, Thousand Oaks.
- Sands, S., Campbell, C.L., Plangger, K. and Ferraro, C. (2022) "Unreal influence: leveraging AI in influencer marketing", *European Journal of Marketing*, Vol. 56, No. 6, pp 1721-1747.
- Schouten, A. P., Janssen, L. and Verspaget, M. (2020) "Celebrity vs. Influencer endorsements in advertising: the role of identification, credibility, and Product-Endorser fit", *International Journal of Advertising*, Vol. 39, No. 2, pp 258-281.
- Sokolova, K., and Kefi, H. (2019) "Instagram and YouTube bloggers promote it, why should I buy? How credibility and parasocial interaction influence purchase intentions", *Journal of Retailing and Consumer Services*, Vol 53, 101742.
- Statista (2021) Influencer marketing worldwide - statistics & facts, available at https://www.statista.com/topics/2496/influence-marketing/#topicHeader_wrapper
- Stein, J. P., Linda Breves, P. and Anders, N. (2022) "Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness", *New Media & Society*, published online June 13, 2022.
- Stewart, D.W. and Shamdasani, P. (2017) "Online focus groups", *Journal of Advertising*, Vol. 46, No. 1, pp 48-60.
- Tan, S.M., and Liew, T.W., (2020). "Designing embodied virtual agents as product specialists in a multi-product category e-commerce: the roles of source credibility and social presence. *International Journal of Human-Computer Interaction*. Vol. 36, pp. 1136-1149.
- Wiese, E. and Weis, P. P. (2020) "It matters to me if you are human-Examining categorical perception in human and nonhuman agents" *International Journal of Human-Computer Studies*, Vol. 133, pp 1-12.

Appendix

Profiles of the participants in the focus groups

Name	Age (years)	Education	Occupation
Grazia	41	Bachelor degree	Employee
Natalia	24	Bachelor degree	Student
Maria	25	Master degree	Employee
Angela	34	Master degree	Employee
Antonella	26	Master degree	Unemployed
Carla	25	Bachelor degree	Student
Milena	35	High school diploma	Unemployed
Rossana	22	High school diploma	Student
Alexandra	25	Bachelor degree	Student
Serena	28	Master degree	Employee
Maria Antonietta	24	High school diploma	Student
Erika	22	High school diploma	Student
Valery	25	Master degree	Student
Martina	18	Middle school license	Student
Sara	18	Middle school license	Student
Francesca	23	Bachelor degree	Student