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The Impact of Virtual Influencers as
Innovation Strategy on Consumer Behavior:
An Experimental Research in the Healthcare
and Fitness Industries

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To my family

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Chapter 1.

Introduction

1.1 Influencers and their role in the health care and fitness industries

In the past two decades the advent of social networks and their constant evolution have changed the human behavior and the way people interact with each other on a daily basis (Ioanăs, & Stoica, 2014). An essential aspect of these kind of platforms is that they allow individuals to express their views and opinions about every type of topic or subject, including, for instance, healthcare and wellness (Cordoş *et al.*, 2017). This freedom granted to everyone started the phenomenon of influencers, who are regular people that are able to gain a large and consistent amount of followers on social media, by talking about specific topics, current events and giving advices regarding different issues (Stellato, 2018). By being seen as “ordinary people”, influencers are perceived as similar, closer and, most importantly, trustworthy by the users and consumers, which is probably why collaborating with influencers in promotional actions is more effective than collaborating with traditional celebrities (Scouten *et al.*, 2020). To develop and maintain a strong bond with their followers, influencers need to manage their personal social media images and contents and have to maintain their credibility, considering that followers value their advice, because of their expertise in certain areas (Belanche *et al.*, 2021).

In the health care and fitness sectors, influencers use their online platform to share information and advices about topics related to health and wellness, meanwhile users, who may share the same or similar issues, can help and support each other, through comment sections and chats (Cordoş *et al.*, 2017; Puntha *et al.*, 2021). Most of them are professionals, such as doctors, nurses, nutritionists, psychologists and personal trainers, but they also happen to be patients with direct experience in certain illnesses or diseases, former professional athletes, fitness lovers or even people with a particular and deep knowledge about a specific area (Life Sciences Marketing, 2024). Since the transition of our lives in an “on-line” society, their role may result crucial to spread accurate and reliable information, based on scientific evidences, and to raise awareness about any kind of health problem in a quicker and easier way, compared to an actual medical appointment (Almathami, 2020). For instance, fitness experts or nutritionists may promote healthy lifestyles, by inspiring and motivating the public to take care of their bodies and their minds, through nutritious diets and workout programs, whilst doctors and nurses can lecture viewers about symptoms,

diseases and cures (Byrne *et al.*, 2017). Social networks are also useful to fund medical research, with the help of collaborations with specialized entities and organizations (Yousuf *et al.*, 2020).

Moreover, companies that operate in the pharmaceutical, food, sport, fitness and wellness industries, could benefit from collaborating with these individuals, if they have the right competencies and, obviously, do not share misleading contents, by reinforcing trust with consumers and expanding their reach; in this way they can stay up to date with the recent digital evolutions and embrace innovative marketing strategies to remain competitive and relevant in today's ever-changing landscape (Life Sciences Marketing, 2024). In support of this statement, a survey was conducted in 2022 in Europe, showing that 42.1% of respondents found a new and more suitable lifestyle, thanks to the health influencer's advices, and almost the same amount of people (42.7%) used products promoted without fully adopting the suggested lifestyle, whilst 12.4% of individuals just followed the influencer because they liked and enjoyed the content. In conclusion, only 2.2% stated that the information shared had a bad influence on their physical or mental health (Statista, 2024).

1.2 Virtual influencers

In this continuously evolving scenario, on the basis of the most recent technological evolutions, especially in the artificial intelligence (AI) industry, a new figure was introduced in the social media universe: the virtual influencer (Gutuleac *et al.*, 2024). Formally, a virtual influencer consists in a digital avatar, created with the use of computer-generated imagery (CGI), Machine Learning algorithms and Artificial Intelligence technology, which has human-like features and that provides the same benefits and behaves in the same way as a normal influencer (Lim *et al.*, 2023). Consequently, these characters try to build emotional connections with viewers by telling fabricated anecdotes that resemble real-life situations.

Their physical features range from very realistic robots, that impersonate a verisimilar life, to fictional characters with unreal attributes. The same is true for their personalities and biographies, which vary from elaborate past lives and experiences to simple avatars with no story behind. For instance, Lil Miquela (the first virtual influencer created; Virtualhumans.org), which is followed on Instagram by 2.6 millions of people, portrays the life of a young girl in the United States of America, who showcases her social life and makes collaborations with luxury and fashion brands. Another different example is the virtual

influencer “Bee_influencer”, that looks like a bee and whose aim is to raise awareness of the climate change issue and the preservation of bees (Rönnhed & Wiksborg 2021).

On one hand, it is natural to think that virtual influencers could face various struggles, such as building parasocial relationships (a one-sided relationship that an audience perceives with a media person) and becoming opinion leaders (an individual who is able to influence people’s views and behaviors), which are two focal features of an influencer, since it is much more complex to form a bond if the users know that they are not interacting with a human being, hence it could be very challenging for the avatars to be perceived as trustworthy as a real influencer (Farivar *et al.*, 2021). On the other, there are some clear advantages implied, especially for the creators of the influencers and for the companies that collaborate with them, including the chance to perfectly match the audience’s promotional requests and interests to the message sent by the influencer, by owning and controlling the robot, and the incapability of the avatar to disappoint the users, while humans can change their minds, quit their jobs and even make mistakes that could jeopardize their career and reputation (Moustakas *et al.*, 2020; Wibawa *et al.*, 2020).

Moreover, another benefit is that human beings are a lot more expensive, since they need to be paid to survive, to travel, to book hotels etc., while virtual influencers do not have the basic and physiological needs and wants and can be used in global campaigns without geographic barriers (Zigurs, 2003).

To date, a study carried out in March 2022 in the United States of America, illustrated that 75% of respondents between 18 and 24 years of age followed at least one virtual influencer, while 67% of people aged from 25 to 44 did so as well. As the age of the respondents increased between 45 and 54, just above half stated that they subscribed to an account and only 26% of consumers over 55 years old confirmed that they followed at least one avatar (Statista, 2024). This information suggests that people are not that bothered by fictional influencers and, as time goes by, they could get more and more used to this type of social media interactions.

1.3 Previous studies and gap in literature

Since the “arrival” of virtual influencers, this phenomenon has intrigued and drawn experts to dig deep and analyze the topic with the goal to better understand how it will impact the future.

Previous, and extremely recent studies focused mainly on the influencer marketing perspective, without delving into specific industries and markets, but only examining the robots' credibility and authenticity in the eyes of the consumer (Balaban & Szabolcs, 2022). Current literature also made studies regarding anthropomorphism and human-like similarity of virtual influencers to figure out how people's reactions and thoughts vary, and may change on the not only because of such virtual agents appearing but also on the basis of their emotional states (Sestino & D'Angelo, 2023); Furthermore, based on the level of resemblance to human beings, results prove that avatars designed to be indistinguishable from humans induce feelings of uncanniness and eeriness, thus having a negative impact on user's intention to follow them and consumer's purchasing behavior (Gutuleac *et al.*, 2024). Other studies focused on the ethical implications of the use of fictional influencers, which refer mostly to transparency, as it should be clearly stated that users are interacting with an avatar and not with a real human being, to avoid misleading the public (Kim & Wang, 2023).

As before mentioned, previous literature explored the issue of virtual humans, their application to social networks and their comparison to real influencers, but there are not any research about virtual influencers that try to better understand if their use is more effective than the one of real influencers in promoting products and services in an precise context, therefore this study will focus on the application of AI generated influencers in the field of healthcare, fitness and wellness in an advertising campaign.

1.4 Objective and structure of the thesis

After introducing the definitions of influencers, virtual avatars and their possible role in the healthcare and fitness sectors, the Thesis will go into detail to further grasp the useful concepts and see what the results of the research will prove.

The structure of the study is divided to firstly analyze the world of influencer marketing, its history and features and how it has affected marketing. Then, it will focus specifically on virtual influencers and Artificial Intelligence, in order to understand how they were created, what are their characteristics, in what way they are changing influencer marketing and how could future evolutions potentially be. Next, the connectors between influencers and followers will be discussed and their relationship will be analyzed with the goal to comprehend the impact that the variables of the model have on this link, specifically in the healthcare and fitness settings.

After the theoretical background, next chapter will expand on the independent variables examined (real influencer *vs.* virtual influencer), the dependent variable (intention to follow the influencer's recommendation), the mediator (the connectedness between influencers and followers) and the moderators (type of setting, healthcare *vs.* fitness). Then the results will be explained, which will determine how the respondents perceive real and virtual influencers and if they feel connected to them in hypothetical scenarios where the influencer promotes an app for fitness or healthcare.

Chapter 2.

Theoretical background

2.1 Influencer marketing

2.1.1 Origins and general overview

After the description of the general context, the analysis of the main characters and their transformations, to better understand the goal and the possible results of the research, the study will focus on a matter that combines social networks with advertising, creating a whole new branch in marketing, named influencer marketing.

Formally, influencer marketing is intended as a set of activities and strategies based on a collaboration between a brand or a company and a social media influencer, who uses his popular profile to sponsor and promote the business' products, accessories and services to his followers, and receives in exchange a monetary remuneration, free products or other kinds of compensations (Farivar & Wang, 2021; Johansen & Guldvik, 2017).

The advent of social networks, such as Facebook, Instagram, Youtube and TikTok, along with the previously mentioned development of influencers, individuals capable of obtaining an immense amount of followers on internet platforms, generated this phenomenon, which may be described as a globally scaled word-of-mouth, and that was effectively understood by companies and had a massive and evolving impact on marketing strategies (Vrontis *et al.*, 2021). Moreover, the bridge between influencers and marketing was consolidated by the change of consumers' habits, especially the younger ones, who tend to spend more time scrolling photos and videos on their favorite social network, than watching television, listening to the radio or reading a journal (Lamberton & Stephen, 2016). For this reason companies changed their marketing strategies and allocated their resources differently to focus on social media campaigns, which resulted in an exponential growth of the global influencer marketing market value to 21.2 billion U.S dollars as of 2023, having more than tripled since 2019 (Statista, 2023).

These increasing investments are mostly employed on collaborations with influencers on three different platforms: Instagram, TikTok and Youtube. The first one offers various formats that creators can use to promote products and services, ranging from photos, videos, tags to Stories and Reels and it also incorporates a designed shopping tab connected to brand's websites. The second social network is the most recent addition and it can be defined as a short-video-sharing app, which still cannot be compared to Instagram, but

manages to grow at a very large rate, hence, in a survey conducted in 2023, over 38% of industry professionals stated that they planned to increase their usage of TikTok for promotional campaigns in the following year (Statista, 2023). Lastly, Youtube, the oldest platform among the above mentioned, stands out from other social networks through the length of the contents published by creators, which have no limits and can last 30 minutes or even an hour.

2.1.2 Features, qualities and flaws

There are many factors that contributed to the rise of influencer marketing, and its powerful involvement in almost every firm's strategy, thus it is essential to analyze the elements that made this discipline so efficient in a relatively short period of time.

The strong impact of influencers on advertisement and communication is due to the consumer's tendency to trust more people perceived as similar, close or "normal", rather than rely on celebrities or idols, whom they may not identify with (Scouten *et al.*, 2020). Additionally, for the exact same reason, consumers perceive them as more authentic than actors, athletes or musicians and therefore are more inclined to share their personal thoughts, opinions and style with other users or with the influencers, that lead to the creation of user generated content and which become key, useful information for companies (Guruge, 2018).

A further aspect is the influencer's ability to create original and captivating contents, that are interactive and therefore inspire and stimulate viewers to purchase a product and experience it themselves, compared to traditional advertisement techniques and communication channels; in this way the communication evolves from a standard one-way message aiming to persuade consumers to an active conversation between the influencer, indirectly the brand, and the users, who become part of the creative process by sharing their opinions, through videos, comments and reviews, with the final goal to create a well built and long lasting relationship (Padua, 2021).

An additional element that has caused this shift is the large quantity of people that these public figures are able to reach and influence through their platforms, thus giving a remarkable amount of visibility to products and services (Jin *et al.*, 2019); another relevant benefit related to this quality of influencer marketing is that it can easily get to the targeted segment of profiles that the company wants to interact with, by collaborating with the right type of influencer, who matches the brand's identity and values and can coherently represent and sponsor the firm's products, whereas through television campaigns it is a harder and less

efficient task to complete (Bakker, 2018). A model that can assist marketers to choose the most appropriate spokesperson can be found in the VisCAP model of source effectiveness, introduced by Percy and Rossiter in 1980 (Percy & Rossiter, 1980), which combines the four essential components of a message endorser, which are visibility, credibility, attractiveness and power; these features can be applied to evaluate the appropriateness of the influencer for the brand aims and for the selected audience (Bakker, 2018).

Lastly, social media marketing, especially through the use of influencers, is often considered and perceived as non-commercial conversation and relatively free from manipulation by companies, while classic commercials are sometimes viewed as intrusive and less reliable (Uzunoğlu & Kip, 2014).

Obviously, there are other elements that are part of an influencer marketing strategy, and which need to be taken into consideration by companies, such as the loss of full control over the advertisement operation, since the influencer is the one who does the final message and he has a say in its content and in how the information is communicated, whilst in traditional marketing businesses are in charge and run the campaign from start to finish, deciding how to convey the idea and what words to use, without risking to miscommunicate the value proposition (Biaudet, 2017).

Furthermore, a negative effect of this type of marketing is related to the empathic and strong bond that influencers share with their followers, which definitely has positive sides to it, but also shows some bad ones. For instance, human influencers can make mistakes or be involved in a scandal, by sharing a misunderstood concept or saying the wrong thing in a particular moment, and, considering the level of popularity, they are being recorded most of the time by themselves or by others, thus could be caught on camera damaging their reputation (Olsen & Sandholmen, 2019). Actions like this may happen and could indirectly harm a company linked with the influencer as well, because followers could be disappointed in their favorite public figure and reject everything associated to them, therefore firms need to also be aware of the troubles that may occur when investing in this kind of partnership.

2.2 Virtual influencers

2.2.1 The advent of Artificial Intelligence (AI) and Machine Learning (ML) in marketing, and in influencer marketing

To be able to dive into the previously introduced concept of virtual influencers and to comprehend their potential impact in specific industries, such as healthcare and fitness, first it is essential to describe the most recent technological discoveries and how they are affecting companies' marketing plans and actions.

First of all, Artificial Intelligence (hereafter, AI) has been widely used in recent years and has drawn the attention and curiosity of many researchers world-wide, because of its application to multiple different disciplines and its usefulness and effectiveness to complete tasks and jobs (Sestino & De Mauro, 2022; Du-Harpur *et al.*, 2020; Albert, 2019). This advanced technology may be formally defined as a simulation of human intelligence processes by machines, especially computer systems, which generally work by absorbing large amounts of labeled training data and analyzing it for correlations and patterns to make predictions about future states (Grewal, 2014). A relevant aspect of it, named Machine Learning (hereafter, ML), is the capacity to learn and improve, through the acquisition of data and creation of algorithms, that generate actionable information (Qiu *et al.*, 2016). ML enables software applications to become more accurate at predicting outcomes without being explicitly programmed to do so, but using historical data as input to predict new output values (Kamani *et al.*, 2022).

Theoretically, there are four commonly known dimensions of AI, from the most ancient and "less advanced" to the newest and more sophisticated ones (Saghiri *et al.*, 2022), namely: 1) Artificial Narrow Intelligence; 2) Artificial General Intelligence; 3) Human-Level Intelligence; 4) Artificial Super Intelligence. The first type is called Artificial Narrow Intelligence (ANI), which refers to intelligent systems that are able to complete specific duties, but cannot detect and formulate unknown tasks with a self-organized approach and are not expected to become self-aware; an example of ANI is an agent capable of face recognition and games playing. The next evolution is called Artificial General Intelligence (AGI), that is not associated to a unique concept in the mind of scientists, but definitely is a more complex and human-like intelligence with the potential to self-learn (Saghiri *et al.*, 2022). For this reason, most researchers believe that AGI is equivalent to another kind of AI, named Human-Level Intelligence (HLI), which basically defines a robot equivalent to a human being in terms of thinking and acting capabilities (Legg & Hutter, 2007; Legg, 2008). Finally, the ultimate evolution is called Artificial Super Intelligence (ASI), which surpasses human capacities in every possible dimension, and is classified into three groups: Speed ASI, an agent faster than humans, Collective ASI, that refers to decision-making abilities similar

to a group of humans, and Quality ASI, which alludes to a machine that can do work that humans are not able to complete (Boström, 2014).

As previously stated, the advent of AI has affected almost every area of interest and field, but this study will only focus on its application to marketing, in order to deepen the understanding of the mix between these two evolving disciplines and their present and future impact on the world. The AI-marketing fusion has been described as the development of artificial agents that, given the statistics and information obtained about consumers, competitors and companies, suggest or pursue marketing actions to achieve the best marketing outcome (Overgoor *et al.*, 2019).

AI and ML have rapidly been applied to a lot of areas within marketing, causing a powerful evolution of the discipline under many aspects, of which it is worth mentioning the creation of customized marketing experiences, such as product suggestions and targeted promotions, through the unique ability of gathering an immense amount of data about customers' purchasing habits, personal preferences and browsing history (Chintalapati & Pandey, 2022); in this way companies can easily adjust their marketing actions to find the best individual fit for every single client, which will in turn generate an increased customer satisfaction and retention (Widayanti & Meria, 2023). In support of this statement, a study conducted among marketers worldwide in March 2023, illustrated that 84% of interviewees agreed that the most effective use of AI and marketing automation was aligning web content with consumers' search intent (Statista, 2024).

An additional aspect of marketing heavily influenced by AI is the Search Engine Optimization (SEO), which is formally known as a set of activities that businesses need to carry out to improve the position of their website on a search page of a search engine (Yuniarthe, 2017). These activities revolve mostly around finding the right keywords that consumers will use when searching for something on the internet, in order for a website to be found more often and get more clicks than the competitor's, which is about understanding the targeted consumer's needs and wants, predicting future trends and identifying potential opportunities; AI allows SEO specialists to have more time to focus on strategic and creative tasks, by automating a lot of manual and repetitive functions, such as spotting the right keywords and analyzing back-links, and it is also able to scan an outstanding amount of data, which would be undoable by humans, to make statistics-based decisions, which makes it easier to make predictions (Yuniarthe, 2017). These few tasks provided by AI, completely change this discipline and empowers firms to manage big and complex websites easily and allows them to conduct their SEO activities in a much more efficient way; to back this

argument, a 2023 questionnaire showed that 74% of marketers used AI to raise the Search Engine Results Pages ranking (Statista, 2024).

A further underrated benefit of using this technology in marketing is the creation of chatbots, specifically employed in the customer service branch, which can help clients twenty four hours per day for seven days a week, by answering questions, solving problems and gathering feedback and reviews from buyers and generate new leads (Luo *et al.*, 2019); moreover, through ML they are able to improve their ability to give accurate responses as they are being used, by recording every question and answer and learning from them (Hill *et al.*, 2015). According to a survey, carried out in 2022 among consumers in the United States of America, around 25% of respondents stated that they were happy and satisfied to communicate with an AI chatbot, therefore this tool has been integrated in most companies and has improved the customer experience and satisfaction and reduced costs (Statista, 2023).

In conclusion, another area through which AI and marketing are blending is definitely influencer marketing, thanks to the before mentioned development of virtual influencers, fictitious social media characters generated with AI, that, for the purpose of this study, will be further examined in the next paragraph, in order to have a deeper knowledge of the phenomenon, which will in turn pave the way to analyze it in the specific fields of healthcare and fitness.

2.2.2 Virtual influencers: Types and characteristics

In the previous paragraph the concept of virtual influencers was established, these avatars were defined and described with the help of preceding literature and even through the delivery of a couple of examples; their advantages and disadvantages were brought up and compared to the human influencers', with the final aim to comprehend how their artificiality is viewed by consumers and how it impacts their intention to follow the influencers and their intention to buy what they are promoting, providing an introductory knowledge of this intriguing innovation. The objective of this paragraph is to further deepen the understanding and increase the level of expertise of this phenomenon, by presenting the history of artificial influencers, what brought them to the spotlight, their features, the different kinds, how they are perceived by the public and how they will be seen in the future.

In this scenario, we currently act in the context of the so-called Web3, that is an evolution of the World Wide Web, which is based on a decentralized network, reducing the

necessity of a centralized mediator, unlike Web2, that is controlled by few powerful companies, and on the blockchain, which offers a public, safe and inalterable register for transactions of digital data (Cao, 2022).

In the past twenty years there have been a numerous attempts to create “unreal avatars” capable of interacting with humans and behaving in a similar way, which opened the path for virtual influencers and for future upgrades, such as Mitsuku, a chatbot created by Rollo Carpenter in 2005, through the use of AI, capable of having a conversation with users in a realistic and engaging way (Croes & Antheunis, 2021); an additional case worth to be mentioned is SimSimi, another chatbot that came out in 2012 and gained popularity thanks to funny and clever conversations, making a significant impact in this industry and showing that virtual robots were able to create emotional connections with human beings (Zeeko, 2017). These examples cannot be considered as virtual influencers, even though they definitely revealed the incredible potential in this sector, which quickly escalated towards artificial influencers when social networks burst on to the scene. Formally, the first virtual influencer is considered to be Lil Miquela, that came out in 2016 and rapidly gathered an immense number of followers on Instagram and TikTok, by impersonating a typical “Instagram look”, which allowed the account to collaborate with famous fashion brands, such as Chanel, Burberry and Fendi (Wong, 2018). An additional relevant one is named Lu do Magalu, which originated more than a decade ago and then grew into a virtual influencer and became the most followed one with more than 5 millions of fans on Instagram, 2 million on Youtube and 1 million on Twitter and TikTok (Sands *et al.*, 2022). These are just the best-known avatars but many more are surfacing on different platforms, because of three main and crucial reasons: the technological and design improvements, the consumer’s tendency to use social networks and the economic interests involved for companies, which will be analyzed later in the paragraph.

Creators have all kinds of creative and original ideas in today’s market, that extend the possible features of virtual influencers to boundless options, especially from an aesthetical perspective, since technological developments brought avatars which are almost identical to real individuals; from this point of view, it is possible to distinguish higher-level of realism avatars, such as Lil Miquela, Shudu Gram and Blawko, that have normal physiques, realistic faces and generally proportionate dimensions of their bodies, through the use of high-resolution motion capture (Blanton & Carbajal, 2022). They represent the most similar cases, even though by taking a closer look it can be seen that they are not real, also because of their contents and posts on social media, which basically portray actions and

situations that are usually lived by real famous influencers or stars (Blanton & Carbajal, 2022). Another distinction, that can be made about outer appearance, refers to the ones based on specific artistic styles adopted by the creators, which generates a noticeable difference from humans; one instance is Noonoori, a young girl with a “cartoon look”, which includes big eyes and lips and a larger head compared to the body, that was able to collaborate with big fashion brands, thanks to her style, background story and vibrant personality (Colombini, 2023).

Another instance is FN Meka, who was created with a “cyborg look”, and appears to be half human and half robot, and impersonates the character of a rapper. Lastly, it is possible to suggest a further type of virtual influencer, based on their physical form, which is perfectly depicted by “Bee_nfluencer”, that is an actual stylized bee, whose creators thought that, instead of trying to look like a human, it would have been more coherent and efficient to design a different character with animalistic features (Audrezet & Koles, 2023).

An additional relevant attribute, that affects artificial influencers’ growth, is their personality, which is obviously chosen by their creators and that needs to be cohesive with their appearance and actions, in order to have an organic avatar able to attract people and stimulate individuals to follow and even buy the sponsored products (Sands *et al.*, 2022). For instance, the before mentioned virtual influencers all have very diverse and distinctive temperaments; Lil Miquela was created as a young girl interested in pop culture and fashion, whilst FN Meka portrays a rapper with a controversial and rebellious attitude, which is also expressed through his musical lyrics, whereas “Bee_nfluencer” definitely has a unique style and strong identity, which serve its main function, that is to raise awareness about the need to protect bees (Audrezet & Koles, 2023).

Furthermore, other essential aspects that should be considered when creating a virtual influencer is their objective, that can range from merely getting collaborations with popular brands for advertising their products and services, to spreading the word on social and environmental issues.

Researchers have mainly focused on trying to understand whether these avatars can actually influence people and have a role in marketing and figuring out how they are perceived, hence comprehending if they can be more efficient than human influencers (Vrontis *et al.*, 2021; Leung *et al.*, 2022).

First of all, the current trend confirms that people have no problem in following virtual characters, as a survey carried out in the United States of America in 2022 suggests

that 58% of respondents followed at least one artificially created influencer (Statista, 2023), while another study, held in the same period, analyzed the reasons why users had interest in these personas: 26,6% followed the content creator because they personally enjoyed what they published; storytelling was the second most cited motive by respondents at 18,6%; 15,5% of consumers stated that they were inspired the digital avatar, while the same amount of interviewees indicated music as a factor for following such influencers on social media; only 12,1% of individuals pointed out the avatars' aesthetic as the main reason and lastly, 11,8% said that the interaction was a determining element (Statista, 2023). This data definitely helps companies to understand that collaborating with AI generated influencers could be efficient, since it has less costs and risks than real ones (Moustakas, *et al.*, 2020), but it still does not help to figure out whether users trust the artificial creators' promotion to buy the sponsored product or service. To date, a study completed in the United States of America in March 2022 tried to illustrate virtual influencers' impact specifically in sales and marketing and the results were quite convincing, given that 35% of respondents confirmed that they had purchased a product or service promoted by an unreal influencer, whilst 65% stated the opposite (Statista, 2023). These useful numbers push firms, which operate in every kind of industry, to dive into this new, innovative and evolving world and explore interactive, efficient and customer-driven ways to form marketing strategies and sell products.

2.3 The concept of individuals' connectedness with the influencer

After the analysis of influencer marketing and AI's impact in this field, a few new concepts will be introduced in this paragraph, which explore the cognitive aspect of the topic, in order to deeply understand why individuals follow influencers and listen to their advices from a psychological point of view. Firstly, it is necessary to begin with the notion of psychological distance, that refers to a subjective and abstract perception of closeness or distance between two individuals, therefore characters who do not have anything in common are psychologically distant while two who share thoughts, interests, values, opinions, attitude or background are considered psychologically closer (Lieberman *et al.*, 2007). The level of closeness depends on the intensity of these elements and on how frequently they manifest. There are several factors that determine the similarity between people, such as common experiences and demographic features (age, country, language, etc.), which create a sense of reciprocal understanding and sympathy (Maglio *et al.*, 2013). It is easy to imagine how this concept can be useful to understand how influencers are able to have an impact in followers'

lifestyle and purchasing decisions and why psychological distance should be a major component when studying influencer marketing or, from a company's perspective, when choosing which influencer to collaborate with (Xu *et al.*, 2022).

An additional topic that is essential for the purpose of this research is the idea of connectedness, that is formally defined as a state of being interconnected with other individuals or the surrounding world, through the creation of a sense of belonging and an emotional bond to human beings or a community (Bailey *et al.*, 2018). Such a concept represents an inner human need, resulting in individuals seeking for connections allowing in the attempt to feel part of something bigger and more meaningful.

Connectedness is formed by having positive and deep relationships with other people, which rely on mutual trust, empathy (i.e., the ability to imagine what someone else might be thinking or feeling; greatergood.berkeley.edu) and honest communication (i.e., being straightforward, telling the truth, giving complete information, showing intent to be understood, and being sincere; Levine & Cohen, 2018), and by sharing values, interests, ideas and goals, which in turn create communities where people feel like they are contributing to something broader and important (Jiang *et al.*, 2010).

This interconnection can be seen as the foundation of influencer marketing, since content creators build a strong relationship through sharing their personal experiences and feelings to the world and by showing support and gratitude to their followers (Martínez-López *et al.*, 2020). Some of them are even able to create connectedness between their fans, by building a digital space where individuals with similar interests, passions or problems can link to participate to discussions, share opinions and give support (Saldanha *et al.*, 2023).

Formally, from a psychological and consumers behaviour perspective, individuals seeking connectedness importantly shape their intentions to follow influencers' advice and suggestions, through a process of social validation and identification (Farivar *et al.*, 2021). The desire for connectedness motivates individuals to seek out influencers who resonate with their values, beliefs, and lifestyle aspirations (Hugh *et al.*, 2022).

Thus, formally, once the connection is established, individuals may internalize the influencer's recommendations as a means of aligning themselves with the influencer's perceived social circle or community (e.g., as analyzed by Sheldon *et al.*, 2011). This alignment serves as a form of social validation, reinforcing the individual's sense of belonging and acceptance within the influencer's sphere of influence (Ibáñez-Sánchez *et al.*, 2022). Consequently, the intention to follow influencers' advice is influenced by the perceived connection and the desire to maintain or enhance social bonds within the influencer's network.

These concepts are key elements to explain how influencers gain popularity and why followers are prone to listen and follow their suggestions, hence an influencer needs to be psychologically close to its targeted audience and has to have a high level of connectedness to its viewers. Previous research primarily found four reasons why people are inclined to adopt influencers' advices: the first one is represented by credibility and reliability, which are constructed through time, by sharing authentic and genuine contents or by showcasing a profound knowledge about a certain topic (Lee *et al.*, 2022); secondly, ambition and admiration also play a significant role, since influencers often portray a happy, successful and expensive lifestyle, followers usually try to mock them or to adopt similar behavior, hoping to obtain closer results (Morton, 2020); thirdly, individuals can be pushed to follow trends because of their desire and need to be appreciated and to feel part of a group that accepts and is compliant to the suggestions or trends set by the influencer, who encourages interaction between individuals to stimulate the birth of a community (Saldanha *et al.*, 2023); Lastly, it can be said that, in a world full of information and choices, listening to a personal influencer of trust can simplify the decision-making process regarding products or services, making it more efficient, by reducing time and energy spent during the research and evaluation process of different alternatives (Morton, 2020).

These motives are heavily related to the previously mentioned concepts of psychological distance and connectedness, through the same values and attitude shared by the social media figure and his or her followers, which makes them psychologically similar and closer, and through the intense relationships established over time, between influencer and user, but also between users, who connect each other thanks to a strong sense of belonging to the community built by the influencer. For this reason, reducing the psychological distance and increasing the level of connectedness will improve the impact of influencers' actions on their followers.

2.4 The Role of Influencers in Healthcare vs Fitness

As previously described, over the years influencers of any kind have surfaced on the internet and have lectured the public on different topics, but this Thesis will focus specifically on the role of these characters in the healthcare and fitness settings.

In the healthcare industry influencers are mainly professionals, such as doctors, nurses, nutritionists, dentists and physiotherapists, who use social media to share information and advices in order to help a wider audience (Almathami, 2020). Their activities primarily

include the creation of contents about health, in which they offer suggestions to prevent illnesses and diseases and to improve individuals' health and lifestyle (Puntha *et al.*, 2021); another useful action taken by these public figures is providing accurate information based on proof and scientific studies, to deny false beliefs and stop disinformation in their respective field, with the final aim to improve people's awareness on particular topics (Byrne *et al.*, 2017); additionally, healthcare influencers also offer reviews about sanitary and pharmaceuticals products and services, by sharing their opinions and experiences in order to help followers to make informed purchasing decisions (Cordoş *et al.*, 2017).

Moreover, a few example are provided to prove how these individuals have a positive effect on individuals' health knowledge and impact on their lifestyle. Firstly, Doctor Antonio Braucci is a surgeon specialized in plastic and cosmetic surgery, who uses his Instagram and Youtube platform to share beauty and wellness advices, to answer the public's questions and curiosities and to disprove unreal theories and rumors about his branch of medicine. An additional one is Doctor Angelo Verde, that is a nutritionist, who utilizes his Instagram profile and blog to provide healthy recipes and gives suggestions on how to maintain a proper weight and balance calories. Lastly, Doctor Stefano Gaudio is a known physiotherapist who owns a Instagram account to share exercises, show how to properly do them and talks about how to prevent injuries.

In the fitness industry the number of influencer is larger because many enthusiasts decide to begin this journey and tell their own experiences, connecting with other people with the same interest, who want to embark on the same path. These type of content creators range from personal trainers, physiotherapists, nutritionists and former athletes to people who were able to obtain outstanding results in their fitness journey (Life Sciences Marketing, 2024). Fitness influencers mostly publish tutorial videos where they explain how to properly train, how to recover from workouts and how to achieve results (Puntha *et al.*, 2021); a further activity is the creation of online group workout sessions, in which gym experts conduct the participants during the exercise, providing help, advices and connecting a whole community through the passion for fitness (Stollfuß, 2020); moreover, influencers in this industry play the role of motivators to stimulate young and old individuals to develop a positive relationship with their body and to encourage them to pursue a healthy lifestyle (Durau *et al.*, 2022).

Furthermore, a few example of personalities who embody what previously described in order to illustrate in what way these individuals impact their followers. An example is represented by the Instagram account "Bennyinpale", which is owned by a female personal

trainer that share advices and tips on how to lose weight, get in shape in the gym and does online practice lessons; to conclude, another relevant personal trainer is Fabio Damiani, that has an Instagram and Youtube profile where he uploads videos of his live lessons and shows how to properly use weights and different kinds of machines.

Based on the reasoning above, we suggest that the type of influencer (real vs. virtual) influences individuals' intention to follow the recommendations through the effect of their connectedness with the influencer. However, such an effect is moderated by the type of setting (healthcare vs. fitness).

The conceptual model behind our hypothesis is shown in the Figure below (Fig. 1).

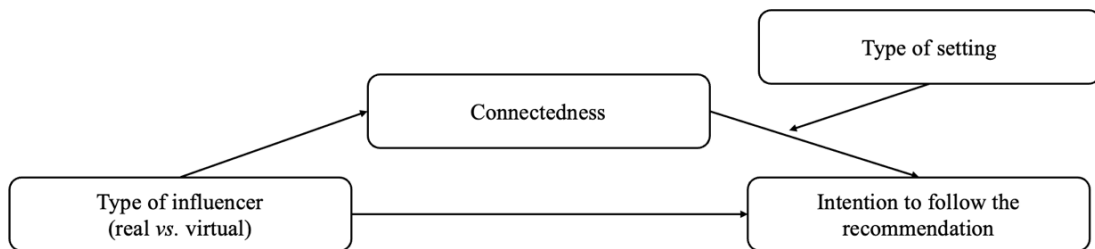


Figure 1. The proposed conceptual framework. *Source:* Author's elaboration

Chapter 3

Materials & Methods

3.1 Sample and Procedure

In order to test the above-mentioned hypothesis, this study uses a quantitative approach through the development of a questionnaire.

The questionnaire was created on Qualtrics, and responses were obtained through the online sharing of the link to the survey on different social media platforms, mainly Instagram and Facebook, and via personal contacts.

The distribution phase lasted about eight weeks, from March 15th, 2024 to May 14th, 2024. In this period of time 316 answers were collected, and after the elimination of incomplete observations, the final sample consisted of 300 observations, the majority of which were men (188 out of 300, 62,67%), while 112 were women (37,33%). The participants' age ranged between 18 and 75 years old, with an average of 32,11 ($SD_{age} = 10,08$).

Among the sample, one hundred and fifty-four participants (51,33%) held a master's degree, while one hundred and forty-one (47%) obtained a bachelor's degree. Only two (0,67%) of the respondents reported to have a PhD, whilst three (1%) of the remaining declared to have a secondary school diploma or lower academic qualifications.

The sample analysis, in terms of participants' sociodemographic is showed in the table below (Table 1).

Sociodemographic variables	N	%
<i>Gender</i>		
Male	188	62,67%
Female	112	37,33%
<i>Level of Education</i>		
High School or less	3	1%

B. Sc	141	47%
M. Sc	154	51,33%
PhD	2	0,67%

Table 1. Sample Composition.

3.2 Questionnaire

The questionnaire is built in three sections. First of all, we welcomed the participants, told them the topic of discussion and expressed that, by answering the questions, they will preserve their anonymity (Podsakoff *et al.*, 2024).

In the first section, participants were randomly exposed to four different kinds of stimuli that manipulated both the type of influencer (real vs. virtual), and the type of setting (healthcare vs. fitness) (4x4 cells).

After reading the scenario, the participants were asked to indicate their intention to follow the recommendation based on a single item (i.e., “I would follow the influencer who is promoting this app”), on a scale ranging from 1 to 7, where 1= “Strongly disagree”, and 7= “Strongly agree”.

Then, they reported their perceived connectedness with the influencer based on a six items scale (e.g., “I am interested in knowing more about this influencer’s advices”, “This influencer and I could share the same interest”, “I could feel connected with this influencer”, “I would talk about my personal life with this influencer”, “I could be interested in what this influencer is really like”, “I think I will get along well with this influencer”), on a scale ranging from 1 to 7, where 1= “Strongly disagree”, and 7= “Strongly agree”.

Lastly, participants answered some sociodemographic questions (i.e., “Gender”, “Year of birth”, “Level of education”), the results of this section are reported in the above paragraph.

Chapter 4

Results

Results of our statistical analysis demonstrate that the real type of influencer (*vs.* virtual) influences individuals' intention to follow the recommendations through the effect of their connectedness with the influencer. However, such an effect is positive and magnified in the cases of fitness (*vs.* healthcare) settings.

Through the use of the software IBM SPSS 29, we run a moderated-mediation analysis and were able to test the proposed hypothesis. In particular, the conceptual model was tested using the SPSS PROCESS macro (Model 14; Hayes, 2018).

The moderated-mediation model has been built in three phases. In the first one, followers' connectedness to the influencer (treated as a continuous variable) was expressed as a function of the type of influencer (real *vs.* virtual), the type of setting (healthcare *vs.* fitness), which served as the moderator, and their interaction.

Next, in the second phase, respondents' intention to follow the recommendations of the influencer (treated as a continuous variable) has been indicated as a function of followers' connectedness, which worked as the mediator, whilst controlling for the direct effect of the type of influencer (real *vs.* virtual).

In conclusion, in the third phase, the indirect effects of the type of influencer (real *vs.* virtual) on individuals' intention to follow the recommendations, through the effect of connectedness, has been estimated conditional to the different type of setting (healthcare *vs.* fitness).

Results illustrate that the type of influencer (real *vs.* virtual) ($b = -.795, p = 0.000$) is negatively related to followers' connectedness. Sequentially, individuals' intention to follow recommendations to the type of influencer (real *vs.* virtual) ($b = .331, p = 0.000$). Above all, the survey returned an effect of the interaction term that was positive and significant ($b = .079, p = 0.000$).

Moreover, to better explore the nature of the moderator effect, we focused on the role of the type of setting (healthcare *vs.* fitness). Furthermore, results showed that the above mentioned interaction term exerted a direct effect on individuals' intention to follow recommendations (index of moderated mediation: $b = .090, 95\%$ Confidence Interval [CI]: $.014, .183$). Consistent with our hypothesis, the type of influencer (real *vs.* virtual) exerted a direct effect on intention to follow recommendations (through the effect of connectedness) which was positive among respondents who showed a lower level of type of setting

(healthcare) (M-1SD: $b = .526$, 95% CI = .329, .710) and even more emphasized and significant among those individuals who exhibit higher type of setting (fitness) (M+1SD: $b = .690$, 95% CI = .489, .878).

Results are shown in the table below (Table 2.):

Phase 1.				
Dependent variable. Connectedness	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	-.795	.210	-3.782	.000
Type of influencer (real vs. virtual)	.114	.039	29.312	.000
$R^2 = .629$, MSE = .591, $F(1, 297) = 859.196$ $p = .000$				
Phase 2.				
Dependent variable. Intention to follow recommendations	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	2.270	.539	4.207	.000
Type of influencer (real vs. virtual)	.331	.070	4.725	.000
Connectedness (<i>Me</i>)	.096	.124	.770	.004
Type of Setting (healthcare vs. fitness) (<i>Mo</i>)	-2.688	.099	-2.697	.000
Interaction	.079	.021	3.791	.000
$R^2 = .607$, MSE = .620, $F(4, 295) = 194.24$, $p = .000$				
Phase 3.				
Conditional indirect effects at different levels of the moderator	<i>b</i>	<i>SE</i>	<i>LLCI</i>	<i>ULCI</i>
Low level of <i>Mo</i> (M - 1SD); type of setting	.526	.098	.329	.710
High level <i>Mo</i> (M + 1SD); type of setting	.690	.099	.489	.878
Index of moderated mediation	.090	.042	.014	.183

Table 2. Results of the statistical analysis, Model 14 (Hayes, 2018). *Source:* Author's elaboration.

As previously shown, the results show that individuals still feel a strong difference between real and virtual influencer, given by the impact of the connectedness that they perceive. Moreover, the effects generated by the type of influencer, along with the connectedness, are considered conditional to the type of setting, resulting in a high intention to follow the recommendations suggested by the influencer in both industries (healthcare and fitness), but with a fair edge in the fitness setting.

Chapter 5

Discussions and implication

5.1 Overall discussion

This thesis approached the world of influencers and studied their features and aspects to learn how and why they had a major impact in the marketing field, creating a fully fledged discipline, that of influencer marketing. It also engaged in the new and innovative branch of virtual influencers created with AI and ML, in order to know how they are changing the world, what effect they are having in management and marketing and compare them with real content creators. In addition, another goal of the research was to comprehend real and virtual influencers' impact in the healthcare and fitness industries, instead of doing a generic analysis, which would not have enriched the current literature.

Basically, individuals follow influencers' suggestions because they feel an abstract connection, caused by many similarities (demographical, attitudinal, behavioral etc.), which tends to generate likeness and trust (Bailey *et al.*, 2018). Therefore, one of the purposes of the thesis was to grasp if individuals feel the same connection with virtual influencers as they do with real ones. Specifically, we inspected these differences in two particular settings, healthcare and fitness, with the aim to know if there were particular contrasts or correlations between type of influencer and type of setting.

The results demonstrated that respondents do not feel the same level of connectedness with artificially created influencers, probably because they feel psychologically distant and do not identify in these personas (Sands *et al.*, 2022), while the level of connectedness to human influencers is definitely higher, because people feel similar and perceive reliability and trustworthiness (Farivar *et al.*, 2021). Hence, through the effect of connectedness, individuals are inclined to trust real influencers' recommendations instead of virtual ones. Moreover, the results indicate that this effect is augmented in the fitness setting, compared to the healthcare setting, even though they are both positive.

5.2 Academic and Theoretical implications

Based on our results, this Thesis may contribute to both theoretical and managerial practices. From a theoretical perspective, our study enriches the literature related to influencer marketing, providing both academic and theoretical implications, by demonstrating that,

generally, real influencers are more appreciated and have a stronger impact on consumers' intention to accept their advices than virtual influencers.

Most importantly, the thesis also analyzed this comparison in specific settings and showed that human influencers are more valued in the fitness setting than the healthcare industry, whilst previous studies mostly focused on a general comparison between real influencers and AI generated ones, by testing if unreal influencers can actually overcome the feelings of eeriness and uncanniness, usually conveyed by very realistic robots (Gutuleac *et al.*, 2024); other researches focused on comparing conversations between humans to dialogues between humans and chatbots, in order to see the gap between the two (Hill *et al.*, 2015); moreover, other literature went into detail in the ethical part of virtual influencers to understand their more complex aspects (Kim & Wang, 2023).

Secondly, our study contributes to the literature related to the concept of connectedness with the influencer, underlining its significance. Indeed, based on previous studies, which examined the process of building a follower-influencer relationship, tested the role of similarities and their impact in generic sales contexts and defined the concepts of psychological distance and connectedness (e.g., Croes & Antheunis, 2021; Jiang *et al.*, 2010; Maglio *et al.*, 2013; Bailey *et al.*, 2018), we now add knowledge by confirming that the interconnection is always present both within a relationship between a real or virtual influencer and his or her followers, even though its role as a mediator works more efficiently for human influencers. Therefore, our analysis helped to comprehend that an influencer, real or artificially created, is a useful, worthwhile and functional choice to promote products or services, to build an advertisement campaign or to interact with potential consumers on social media platforms because it generates a direct positive effect on individuals' intention to follow its recommendations, which can partially be explained through the connectedness formed and established between them.

Thirdly, the thesis also contributes on a different aspect of connectedness, by explaining that, even though it reaches a higher level with real influencers, artificially created ones still generate a fairly good degree of connectedness, which is sufficient to stimulate a long-term follower-influencer relationship and thus enough to define virtual influencers as useful and functional for influencer marketing. Indeed, we demonstrated that the mediator effect of connectedness works for virtual influencers too, while previous literature only examined it on real influencers (Bailey *et al.*, 2018; Saldanha *et al.*, 2023). Therefore, it is essential also for virtual influencers to be programmed in a way that enables

them to create and guarantee a certain level of interconnection, empathy and emotional exchange with human individuals.

5.3 Managerial and Practical implications

Based on our results and after the description of various theoretical insights, it is possible to analyze different managerial and practical implications, that companies may consider, when deciding if they should invest in influencer marketing.

First of all, our research indicates that businesses, which want to pursue a marketing campaign through social medias, may have a better chance of success by collaborating with real influencers, since they are perceived as more authentic and similar by potential consumers, who are inclined to identify more in a real person. This psychological closeness gives an edge to human influencers, when sponsoring products or services, therefore firms should be aware of the bond that real influencers are able to build with their followers, before implementing a marketing strategy that involves social media figures.

However, a second implication to consider is that, even though human influencers may end up having a more intense effect on individuals, virtual ones still have a positive impact if they consistently produce and guarantee moments of interaction with users and followers, in order to stimulate the connection. Hence, both kinds of influencers generate a positive impact, as long as they provide a high level of connectedness, through storytelling, interactions and community building. This means that companies should not be discouraged to invest in virtual influencers, also because, generally, they are considered to be less expensive than real ones, who need more money to travel, book hotels and satisfy the basic human needs; furthermore, virtual avatars are not conceived to make mistakes or take irrational decisions, whilst human beings often make the wrong choices, which, in the social media world, can produce damage to their reputation and to the brands connected to them.

Thirdly, this thesis also discovered that, fitness brands or companies related to that world ought to dive into the influencer marketing discipline, because they may obtain an effective advertisement and communication campaign from it. This is illustrated by the results of the questionnaire, which underline that followers' intention to observe the recommendations of the influencer, through the strong effect of connectedness, is amplified in the fitness industry, rather than in the healthcare sector, therefore managers and marketers involved in this industry may reach outstanding results, by investing in the right influencer.

Having said that, the research explains that the effect is only magnified in the fitness setting, but at the same time generated a positive effect in the healthcare setting. Thus, businesses in this specific field need to be more careful and gather more information to decide whether forming an influencer marketing strategy is the right direction, since the influencer may be less appreciated and lead to a failed strategy. One of the reasons why in the healthcare industry the effect is mitigated is that it is a field intrinsically related to trust, competence and reliability, therefore, when dealing with health issues, people are inclined to base their decisions and choices on medical skills, scientific competencies, data and factual proof, rather than focusing on emotional and empathic connections. In addition, it can be said that, generally the risk and severity perceived associated to health is higher than the one that individuals perceive regarding fitness problems, which makes connectedness produce a lighter impact in the first setting and instead allows it to make a powerful effect in the second one.

Chapter 6

Conclusion

6.1 Conclusion

Influencer marketing is by now a worldwide established field in the business universe, since companies quickly realized its immense potential in the last decade, when social networks burst on to the scene and changed individuals' everyday life and habits. Since then, individuals with particular knowledge, personality or even people who just wanted to share thoughts and opinions, were able to get the spotlight quickly and easily through these platforms and be watched and followed by numerous users (Ioană, & Stoica, 2014).

This innovative world generated collaborations between brands and influencers, which in a few years increased exponentially, because of their efficiency and direct impact with consumers, which are confirmed by our research. Indeed, what attracts brands to form relationships with influencers is how they are able to develop long term bonds with their followers, through connectedness, based on trust, reliability and interactive experiences, which, compared to traditional marketing tools, such as television ads and billboards, have a whole new influence on consumers.

The discipline of influencer marketing, mixed with the newer trend of AI and ML, brought to life virtual influencers, which are formally known as human-like content creators on social media. According to our results, they can have a solid impact on consumers' behaviour, in terms of following their advices and trusting their knowledge, as long as a constant interaction is provided. Thus, as aforementioned in the results, a high level of connectedness is necessary for both human and virtual influencers to affect followers' thoughts and views, in order to ultimately be useful for companies and their marketing strategy.

The final objective of the thesis was, not only to compare two kinds of influencer (real vs. virtual) and comprehend how the connectedness altered this comparison, but also test it in two separate and distinctive settings (healthcare vs. fitness), in order to reinforce the current literature with findings in particular fields. Our survey highlighted the fact that, in the fitness industry, the effect of connectedness had a positive and significant influence, magnified for reasons that are probably related to the nature of the sector, whereas in the healthcare area the effect was less powerful, but still positive. This means that, thanks to our

thesis, knowledge in these two settings about influencer marketing has increased, by realizing that influencers can be utilized in both industries, as long as firms implement information-based strategies and choose carefully the right social media figure to collaborate with.

6.2 Limitations and future research

Despite the promising results revealed from our research and the consequential academic and managerial implications, this thesis is not exempt from limitations, and, hopefully, the combination of discoveries and flaws will stimulate future investigations to broaden and deepen knowledge about similar topics.

For instance, we only focused on the fitness and healthcare sectors, but future studies may explore other research settings, investigating whether our results are confirmed or subverted (e.g., in the case of fashion consumption, where influencers have a crucial role; Gunawan & Iskandar, 2020; or in the tourism sector, where influencers are extremely useful and followed when promoting a tourism destination; Gretzel, 2017). Furthermore, as well as changing the kind of setting, following literature may also use a different dependent variable than the intention to follow the recommendation of the influencer, such as the willingness to buy the product or service sponsored by the real or virtual influencer, in order to analyze possible differences. Moreover, since our questionnaire has been administered among a sample of Italian participants, future research may enlarge the sample, by including individuals from other geographical locations, in order to assess both cultural and background differences.

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Appendix

Variables, construct and measurement scales

Dependent variable (*X*) = Type of influencer (real vs. virtual)

Independent variable (*Y*) = Intention to follow the influencer’s recommendation

Mediator (*Me*) = Connectedness

Moderator (*Mo*) = Type of setting (healthcare vs. real)

Type of Influencer for mobile health application

Virtual	Real
<p>Imagine that you are scrolling on your favorite social network and you come across a virtual influencer, that is an influencer created through the use of artificial intelligence, but who is capable of behaving, talking and moving in the exact same way as a human being.</p> <p>During this short video the avatar promotes an app for mobile phones, that is able to monitor the heartbeat in motion, at rest, its variations, the cardiovascular strength and warn the user in case of dangerous symptoms</p> <p>Under the video there is a link through which you can proceed to the download and purchase of the app.</p>	<p>Imagine that you are scrolling on your favorite social network and you come across a real influencer, who is talking, and moving to promote an app in one of his new videos.</p> <p>During this short video he promotes an app for mobile phones, that is able to monitor the heartbeat in motion, at rest, its variations, the cardiovascular strength and warn the user in case of dangerous symptoms</p> <p>Under the video there is a link through which you can proceed to the download and purchase of the app.</p>

Type of Influencer for mobile fitness application

Virtual	Real
<p>Imagine that you are scrolling on your favorite social network and you come across a virtual influencer, that is an influencer created through the use of artificial intelligence, but who is capable of behaving, talking and moving in the exact same way as a human being.</p> <p>During this short video the avatar promotes an app for mobile phones, that is able to record work-out exercises, number of reps, type of training and duration of session.</p> <p>Under the video there is a link through which you can proceed to the download and purchase of the app.</p>	<p>Imagine that you are scrolling on your favorite social network and you come across a real influencer, who is talking, and moving to promote an app in one of his new videos.</p> <p>During this short video he promotes an app for mobile phones, that is able to record work-out exercises, number of reps, type of training and duration of session.</p> <p>Under the video there is a link through which you can proceed to the download and purchase of the app.</p>

Intention to follow the influencer's recommendation

Source: Authors' elaboration

Items.

- I would follow the influencer's advice who is promoting this app

Connectedness

Source: Jiang, L., Hoegg, J., Dahl, D. W., & Chattopadhyay, A. (2010). The persuasive role of incidental similarity on attitudes and purchase intentions in a sales context. *Journal of Consumer Research*, 36(5), 778-791.

Items

- I am interested in knowing more about this influencer's advices
- This influencer and I could share the same interest
- I could feel connected with this influencer
- I would talk about my personal life with this influencer
- I could be interested in what this influencer is really like
- I think I will get along well with this influencer

Sociodemographic variables

- Gender (Male; Female)
- Age [String TEXT; year of birth)
- *Education:*
 - o Low than high school diploma
 - o High school diploma
 - o B.Sc.
 - o M.Sc.
 - o Ph.D. or similar

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