"Is this real or is it fake?" Virtual influencers, the next generation influencers

'How Artificial Intelligence, identity reveal & storytelling affects audiences perceptions'

Picture from Brud Records (n.d.)

Isabel Hulleman S2737760

University of Twente

Master Thesis supervised by Dr. M. Galetzka

Co-reader Dr. R.S. Jacobs

March 13, 2023

Acknowledgements

In front of you is the master thesis "Is this real or is it fake? Virtual influencers, the next generation influencers". With this thesis, I am completing my master's in Communication Science at the University of Twente in Enschede. By following this master, I stepped outside my comfort zone. I preferred doing what I knew I could do. In doing so, I held back when other people said I could not do something. This time, I took a different approach by pushing my limits and seeing how far I could get when I did not know if I could do it. In doing so, I chose a topic for my graduation that required skills I still needed to gain (partly). I worked with SPSS and conducted a complete research study. I also gained more experience with topics already familiar to me. Therefore, this thesis taught me valuable lessons on both a personal and professional level.

I reached this finish line with the help of certain people. I am grateful for their support and guidance while completing my thesis. Their encouragement, wisdom, and patience were invaluable to me and played a crucial role in helping me achieve this milestone.

I thank my teachers, Mirjam Galetzka and Ruud Jacobs. Your expertise and mentorship helped shape my research and hone my critical thinking skills. Your feedback and constructive criticism challenged me to push myself to new heights. I am grateful for the knowledge and experience you imparted to me.

To my partner and family, your unwavering support gave me the strength and motivation to persevere through the ups and downs during this study. Your sacrifices, understanding, and belief in me have inspired me constantly. Taking care of the girls so I could study was invaluable. I could not have accomplished this without your continued support, and I am genuinely thankful for that.

Isabel Hulleman

Hengelo, March 13, 2022

Abstract

Rapid changes in the digital environment create digital, online possibilities and shifts from the real world to the online world. Examples include Artificial Intelligence and virtual influencers emerging on social media, seriously affecting marketing strategies. Virtual influencers, looking as human as possible, blur the line between the real and the online world and can lead to a feeling of eeriness, known as the uncanny valley. Sometimes their nature is not exposed immediately, often leading to intrigue, and creative storytelling is used to create engagement with (possible) followers.

Studies of influencer effects have mostly provided insights into the effects of human influencers, while few studies have examined the new online possibility of "virtual influencers. This research investigated to what extent the identity reveal about being a virtual influencer affects audiences' perceptions towards the virtual influencer. In addition, whether storytelling plays a role was examined. To test this, the current study conducted a 3 (reveal: human-driven reveal, Artificial Intelligence driven reveal, no reveal) x 2 (storytelling: with, without) between-subjects experiment among 333 participants, using Virtual Influencers' Instagram stimuli. This study's results indicate that no reveal of identity regarding virtual influencers enhances the audiences' perceptions. Participants' perceptions in storytelling conditions were not different compared to participants in no storytelling conditions. Therefore, storytelling in this research does not significantly impact the audiences' perception of virtual influencers.

The findings complement the existing literature on the effects of identity reveal and storytelling related to virtual influencers, and they also provide practical guidelines for marketers using virtual influencers.

Keywords: *virtual influencer, human-driven, Artificial Intelligence, storytelling, trust, engagement, intrigue, eeriness, reveal, audiences' perception, followers, uncanny valley.*

Table of contents

List of Figures

List of Tables

1. Introduction

New technologies, like Artificial Intelligence, play a crucial role in social influence, endorsements, and product placement nowadays. Artificial Intelligence is a technological development that uses computers and machines to replicate the human mind's abilities in decision-making and problem-solving (Tzafestas, 2018). Opinions on Artificial Intelligence are divided; while some see it as the future, others, like Elon Musk and robotics researcher Peter Haas, fear the potential consequences (Bloomberg Quicktake, 2014; TEDx Talks, 2017). Scientists think Artificial Intelligence has many opportunities and can positively contribute to the economy. However, negative science fiction portrayals in movies and media contribute to its rejection due to the lack of knowledge among the public (Crockett et al., 2020; Holder et al., 2021).

Artificial Intelligence (AI) can be used by marketers and brands to pick personas for virtual influencers that will help them when they need to fulfil the functions of human beings. Virtual influencers are already so developed that they are beginning to resemble real people in appearance; they can take over the activities of real human beings and generate large sums of money like human influencers (Block & Lovegrove, 2021). Many global brands and marketers already use virtual influencers. For instance, global brands like Ferragamo, Balmain, Prada, and Samsung have already used virtual influencers in their campaigns (Travers, 2018).

One of the most famous virtual influencers is Lil Miquela, who has an anthropomorphic appearance and 3.1 million followers on Instagram, designed with a carefully edited personality like real humans by the Californian company Brud. Virtual influencers like Miquela are algorithmically modelled as models, singers, and activists to optimize their publicity and impact (Block & Lovegrove, 2021). According to Moustakas et al. (2020), storytelling humanizes Miquela by using real human emotions and activities to create a story about her virtual life. The concept of storytelling is built on the telling of fictional or real-life occurrences with diverse information relevant to an overall message. An emotional reaction can be triggered in the

audience, making it possible to use storytelling for persuasive purposes (Faddoul & Chatterjee, 2020). Another computer-generated person is Shudu. From the beginning, no attempt was made to disguise this model as virtual, unlike Miquela, whose reveal to be virtual only came after two years (Moustakas et al., 2020).

Robots can get people's affinity until a certain point, when a certain level of 'eeriness' is reached, called the uncanny valley: when the robot or virtual influencer looks too human (Mori et al., 2012). This may also apply to virtual influencers. Arsenyan & Mirowska (2021) argue that virtual influencers, who are as human as possible but still questionable enough to make users doubt what to believe, can remove doubt by revealing their nature. As for Lil Miquela, sometimes an attempt is made to disguise the influencer's origin, leaving people uncertain for a while to create mystery, intrigue, and curiosity. In contrast, other influencers do not hide their virtual origins; the reveal is done immediately, as with Shudu (Moustakas et al., 2020). Additionally, the virtual influencers' life through storytelling can help bridge the gap between the real world and fictitious worlds to entertain users or help them escape from their ostensibly ordinary life (Arsenyan & Mirowska, 2021).

With the rise of the internet and social media, influencer marketing has become a crucial digital marketing strategy for brands and marketers since influencers built extensive networks of followers who perceive the influencer as trusted (Jarrar et al., 2020). The next-generation influencers: 'virtual influencers' are upcoming, and some research has been done. For instance, Block and Lovegrove (2021) contributed with their research on the most famous virtual influencer Miquela. Their research combined digital ethnography, textual, and sentiment analysis as a blended research method. It showed that the intrigue about a robot/human ethos combined with identity promotion is an effective strategy to persist. However, there needs to be more research on the effects of this new kind of influencer on audiences' perceptions, particularly on the role of identity reveal and storytelling in influencing these attitudes. Additionally, the rise of virtual influencers, which are computer-generated and, in the future,

possibly Artificial Intelligence-Driven characters, has raised questions about their effectiveness and impact on audiences' perceptions. Therefore, this research presents the following two research questions to fill this gap:

1. *"To what extent does identity reveal about being a human-driven or Artificial Intelligence-driven virtual influencer affect audiences' perceptions towards the virtual influencer on Instagram? ".*

2. *"To what extent does storytelling affect audiences' perceptions towards a reveal (no reveal, human-driven or Artificial Intelligence-driven) of a virtual influencer on Instagram? ".*

With these research questions, this research focuses on the effects of storytelling and a reveal of virtual influencers on audiences' perceptions, particularly their perceptions of trust, engagement, level of intrigue, and level of eeriness towards these influencers.

To answer these research questions, a 3x2 between-subjects experiment was conducted, manipulating the identity reveal (no reveal, human-driven reveal, or Artificial Intelligence-driven reveal) and storytelling (with or without storytelling) of the virtual influencer presented to participants. The study aims to shed light on the impact of virtual influencers on audiences' and how marketers and brands can use them appropriately in their marketing activities.

Overall, this study contributes to the growing research on virtual influencers by providing insights into their effectiveness as digital marketing strategies and their impact on audiences' attitudes. As the number of virtual influencers doubled in the past years (Choudhry et al., 2022; Travers, 2020) and continues to grow, this research provides information for marketers and brands on how to use these new influencers to achieve their marketing goals properly.

2. Theoretical framework

This study examined whether virtual influencers could gain audiences' trust to see if virtual influencers can be as effective as human influencers. Audiences' perceptions were assessed by measuring intrigue, eeriness, trust, and engagement towards virtual influencers. Also assessed was whether they are perceived as credible influencers when they reveal they are virtual and whether storytelling plays a role in the success of a virtual influencer. This chapter describes background knowledge on the independent variables.

Organisations increasingly spend money on online promotion activities in this digital era due to the constantly increasing level of digital media consumption (Wielki, 2020). With the growing spending on digital promotions, one sees that the effectiveness of digital promotions in the digital environment is diminishing. Promoting organisations' services and products has always been more complex than in today's new market conditions, let alone getting a good, desired result. Hence, organisations had to look for other methods to convince consumers of products and services and started to use influencer marketing. According to Moustakas et al. (2020), influencer marketing is the process of selecting and employing individuals (influencers) who have built an extensive social network with many followers to promote a campaign or product and obtain engagement with a brand.

Influencers build trust by engaging people daily in their lives through posting stories and pictures and interacting with people through these posts. This relationship-building can be very useful for brands and marketers to obtain the previously stated engagement, campaign- or product promotion (Sudha & Sheena, 2017). In 2020 a survey conducted by Mediakix indicated that almost 90% of marketers believed that the most important platform for their influencer marketing was Instagram (Statista, 2021). The global influencer marketing platforms had an estimated turnover of more than 101 billion U.S. dollars in 2020 (Batista da Silva Oliveira & Chimenti, 2021). Since 2019, global investments in influencer marketing doubled from 6.5 billion U.S. dollars to 13.8 billion U.S. dollars in 2021 (Statista, 2021). An emergence of virtual

influencers can be seen, with some of these agents being digital avatars designed to be almost indistinguishable from real people (Arsenyan & Mirowska, 2021). To some people, it is indistinct what these influencers' origin, name and functioning are, calling them Artificial influencers. In contrast, others hesitate if the virtual influencers are real human beings or not (Arsenyan & Mirowska, 2021). Moustakas et al. (2020) define virtual influencers as "computer-generated influencers (CGI), human-driven, or Artificial Intelligence Influencers (AII) with a social media presence". Although virtual influencers are designed and controlled by humans and not by Artificial Intelligence, the name Artificial Intelligence Influencer is often used for virtual influencers. The current research assumes that virtual influencers are only named Artificial Intelligence Influencers and that Artificial Intelligence may drive them in the future.

2.1 Virtual Influencers

Influencers create content to acquire cultural capital and fame using social media. When successful, they can influence the mind and behaviour of followers (Djafarova & Rushworth, 2017; Moustakas et al., 2020). The goal of virtual influencers' endorsement is to encourage positive attitudes and create favourable behavioural responses towards the endorsed brand as a result, just like human influencers (Torres et al., 2019). One advantage for virtual influencers, as opposed to human influencers, is that they will not harm advertisers and brands by getting involved in scandals; this only happens when the design team allows it. A human influencer's involvement in scandals may have the days numbered (Batista da Silva Oliveira & Chimenti, 2021). Virtual influencers are still human-driven; design companies create their stories and voices, but Artificial Intelligence is entering the virtual influencer world and developing these virtual influencers. Shudu, for example, was brought to life using photorealistic 3D scans of real people, procedural animation techniques, and conversational AI systems. In this way, Shudu walked the red carpet at the British Academy of Film and Television Arts Awards (Tietjen, 2019). Additionally, Miquela's identity is constantly tested, moulded, and shaped

using story worlds and algorithms. To create engagement, her creators effectively mould and morph her to meet each persona segment within her audience by evaluating engagement and feedback (Block & Lovegrove, 2021).

Creative content can trigger a wide range of emotions, behaviours and reactions in people, and engaging, story-driven content has been found to generate natural curiosity (intrigue) among (possible) followers of virtual influencers and retain them (Choudhry et al., 2022). Creative content can also evoke emotions such as joy, sadness, anger, or fear (Pham et al., 2013). For example, a virtual influencer might create a video sharing his story of overcoming a challenge, which can evoke empathy and an emotional connection with his audience (Klimmt et al., 2006). Similarly, a powerful ad campaign might use a shocking image or message to elicit fear or anger in audiences', driving them to act. On the other hand, a heart-warming story or a funny meme can evoke joy and happiness, bringing a smile to people's faces (Hollis, 2009).

Understanding how creative content triggers emotions can be essential for virtual influencers. It might help these new types of influencers establish emotional connections with their audience, which is crucial for their success. By studying how to evoke emotions with creative content, insights are gained into how virtual influencers can effectively engage their audience and increase their followership (Sas & Zhang, 2010). Research can help brands and marketers make informed decisions on content creation and marketing strategies to effectively engage their audience on an emotional level when using a virtual influencer. Doing so can help them understand the interaction between emotions and cognition. (Casaló et al., 2021; Holbrook & O'Shaughnessy, 1984; Sas & Zhang, 2010). The ability of creative content to evoke emotions can be a powerful tool for brands and marketers, as it can help them connect with their audience on a deeper level and drive engagement (Holbrook & O'Shaughnessy, 1984; Hollis, 2009; Klimmt et al., 2006; Pham et al., 2013).

Engagement with influencers through social media satisfies followers' need for personal identity, distraction, and social relatedness (Arsenyan & Mirowska, 2021). To fit in and connect

with their followers' influencers tap into pop culture and sociocultural and political trends (Block & Lovegrove, 2021). Virtual influencers try to generate intrinsic pleasure in engagement from followers. Letting them immediately experience pleasure or good feelings connects with what followers find important by using an overall positive tone and positive emotions in their posts. Using videos and emoticons creates a pleasant distraction for followers and trust towards the influencer. When followers take intrinsic pleasure in engaging with virtual influencers, this can increase follower engagement (Arsenyan & Mirowska, 2021).

Virtual influencers should be trustworthy in terms of being open, close, and understanding with their followers on social media, which leads to increased credibility through gained positive feelings (Chung & Cho, 2017). An online influencer can be an important source for followers to collect information. In addition, electronic word of mouth among connected followers can be an essential source of information (Thoumrungroje, 2014). Electronic word of mouth (eWOM) refers to all product information communicated by possible consumers through any form of the internet, e.g., social media and mobile phones (Moustakas et al., 2020). With electronic word of mouth and in line with the Source Credibility Theory (Hovland et al., 1953), Djafarova & Rushworth (2017) argue that followers trust influencers with an extensive network. Their research shows that trust can lead to behaviour influence, and eWOM contributes to this; participants refer to Instagram reviews of influencers they follow as a source for information they trust. Opinions generated online through social media are valuable and engaging, enabling followers to form stronger bonds (Thoumrungroje, 2014).

Virtual influencers mentioned in this section are almost indistinguishable from real people and, to some extent, for some people not to distinguish from real at all. This study focuses on these indistinguishable from real human influencers and does not investigate cartoon-like virtual influencers.

2.1.1. Artificial Intelligence & the uncanny valley effect

Research into Artificial Intelligence has a more extended history than most people know. The introduction of Artificial Intelligence is recorded back in history in 1956 (Mijwel, 2015). This phenomenon had a surprisingly low interest for many years compared to the last years when a renewed interest in Artificial Intelligence arose. Since then, many studies describing the role of Artificial Intelligence (AI) in different scientific areas have been published. According to Saleh (2019), Artificial Intelligence, or Machine Intelligence, consists of (the development of) computer programs that are made to complete assignments that generally require the expertise of a human being. Artificial intelligence algorithms can deal with tasks such as observation, solving problems, linguistic understanding, knowledge acquisition, and logical thinking (Saleh, 2019).

According to scientists, Artificial Intelligence, or machine learning, can use data collection to contribute to a better economy, with jobs and added money to the economy, as opposed to the public perception (Crockett et al., 2020). Due to science fiction and Hollywood movies, Artificial Intelligence has been popularised, and a large proportion of the audiences' is influenced by the media, fuelling this hype. Possible future (negative) impacts (e.g., increased economic disparity, the global increase in unemployment, and limitations on individual freedom) are fed by the media (Crockett et al., 2020; Holder et al., 2021). Kolasińska et al. (2019) conclude that people perceive new technologies, such as Artificial Intelligence, as highly useful and aware of algorithms' capability. Humans cannot make optimal and fast decisions in particular fields as algorithms can, e.g., SPAM indication and filtering, detection of fake news, and face recognition. Nevertheless, people remain prudent and conservative when delegating decision-making processes to algorithm-driven machines.

Artificial Intelligence keeps developing at a fast pace. Robots controlled by Artificial Intelligence programs are quite recently developed; this results in using robots as closely as possible to humans (Saleh, 2019). A study by Hinds et al. (2004) has shown positive influences

on human perceptions towards trust when human robots are social and anthropomorphic. These artificial agents can be seen as real social agents when they can interact socially using conversation and emotional expressions (Purington et al., 2017).

In research from Mori et al. (2012), it was noticed that people's affinity increased when robots were made to look as human as possible until arriving at a certain point, where they get a sense of eeriness, called the uncanny valley (Mori et al., 2012). According to Khan & Sutcliffe (2013), the "uncanny valley" effect regarding human-robot interaction suggests that the human experience is highly sensitive to varieties in realism of humanoid representations. On the one hand, bolts and metal cylinders of robots' arms can be covered with something that looks like skin while adding a small amount of meaty chubbiness that makes the arms look as real as possible, which results in people reacting more instinctively to it with a greater feeling of affinity (Mori et al., 2012). On the other hand, in line with the "uncanny valley", when robots become more realistic and harder to distinguish from real due to looks and Artificial Intelligence that is embedded, they become more unpleasant. An unnerving feeling of eeriness arises and can also arise when people see virtual influencers. Factors like this may obstruct the adoption of Artificial Intelligence (Davenport et al., 2019) and the adoption of virtual influencers.

2.1.2 Intrigue

The fast development of Artificial Intelligence or machine learning supports the idea that Artificial Intelligence can be applied in innovation environments, pointing to significant changes and intrigue to come for this topic (Haefner et al., 2021). As stated earlier, algorithms have already constantly tested, moulded, and shaped Miquela's identity. In addition, Miquela's creator Brud avoids negative "uncanny valley" impacts that vary from empathy to anxiety created by near-human perfection. This strategy has been effective so far as it is congruent with Miquela's identity intrigue (Block & Lovegrove, 2021). Intrigue can be described as: "To

interest someone very much, especially by being strange, unusual or mysterious" (Cambridge Online Dictionary, 2023). According to Choudry et al. (2022), mystery and intrigue support following virtual influencers, and interaction with these virtual influencers is caused by not knowing who runs the account of the virtual influencer. Curiosity, mystery, and intrigue can lead to persistent user engagement as followers enjoy the experience of being in the virtual world and not knowing what will happen.

2.1.3 Virtual identity reveal

Since Miquela's first Instagram post in 2016, she expresses real human emotions in her posts, e.g., 'I am still devastated' and 'honestly, I am kind of nervous' while acknowledging herself as a robot. In Miquela's posts, followers can see her hanging out with friends, getting her driver's licence, making music, endorsing brands like human influencers, and more. Miquela's followers were intrigued by her appearance; was she human? Or a robot? In 2018, after two years, she revealed that she is virtual, which led to more engagement; after the reveal, Miquela's followers' comments multiplied positively (Block & Lovegrove, 2021). From an ethical point of view, it can be questioned whether virtual influencers must reveal the fact of being a robot or virtual when they launch a social media account. However, followers must not feel actively or passively misled by the provided information (Moustakas et al., 2020). The question 'is she real or not?' shows that identity intrigue is a primary strategy in the storytelling of Miquela, as opposed to Shudu, where no attempt was made to disguise the models' virtual identity. Regardless of the reveal of Miquela's virtual persona, the intrigue remains and continues in this story (Block & Lovegrove, 2021).

Social media users may see virtual influencers as real social agents, given their human appearance, personality, and lifestyle. Furthermore, interactions with the virtual influencer on social media contribute to this perception (Purington et al., 2017). The current study hypothesises that the digital origin of virtual influencers affects perceptions of trust, eeriness,

intrigue, and engagement. The study should consider if these factors are affected by whether the digital origin of virtual influencers is revealed or not and, in case of a reveal, whether humans or Artificial Intelligence drives the virtual influencer. In addition, this study hypothesises that no reveal of the digital origins of virtual influencers increases perceptions of trust and engagement and lowers the level of eeriness and intrigue because it makes the virtual influencers appear more natural and human. Moreover, this study hypothesises that people are more intrigued and engaged when the digital origins of the virtual influencers are revealed, as this can trigger their curiosity and interest in the virtual influencer's technology. Based on these assumptions, the following three hypotheses are formulated to test how different factors influence perceptions towards virtual influencers:

H1: No reveal of influencers being virtual influencers gains more trust (h1a), a lower level of eeriness (h1b), a lower level of intrigue (h1c), and higher engagement (h1d) than a reveal (of influencers being virtual influencers).

H2: Human-driven virtual influencers gain more trust (h2a), a lower level of eeriness (h2b), a lower level of intrigue (h2c), and higher engagement (h2d) than Artificial-driven virtual influencers.

H3: Reveal about being virtual makes people more intrigued (h3a) and engaged (h3b) than when no effort is made to hide the digital origins of the virtual influencer.

For hypothesis 2, it is not about whether virtual influencers are actually driven by humans or Artificial Intelligence but what people think that drives them.

2.2 Storytelling

To help understand the effectiveness of virtual influencers, the parasocial theory (Horton & Richard Wohl, 1956) can be helpful. This theory describes and attempts to explain how

followers develop a one-sided emotional, social relationship with 'people' who are distant from us, the virtual influencers (Ballantine, 2005). Research from Choudhry et al. (2022) stated that experts suggest creating parasocial relationships between followers and virtual influencers facilitated by creating engaging storylines to develop sustained long-term relationships. Narratives on social media of virtual influencers about their emotions (e.g., self-doubt), blended with other questions (e.g., clothing choices, songs made, and music videos made), help to build parasocial relationships to which users react as they would do in a real-world social relationship (Block & Lovegrove, 2021).

According to Moustakas et al. (2020), various factors have been found that can enhance the effectiveness of virtual influencers on social media platforms. Developing a long-lasting, one-directional relationship with a virtual influencer requires the designers to create a robust creative approach to reach the target group at an emotional and personal level (Faddoul & Chatterjee, 2020). In addition, humanising virtual influencers through storytelling - providing them with aims and ambitions, inner struggles, challenges, conflicts and engaging them in real-life stories - can help followers develop an emotional connection with a virtual agent (Moustakas et al., 2020). A design team can contribute to perfectly humanising a virtual influencer and use storytelling at a real-life level, an advantage over Artificial Intelligence-driven virtual influencers. This can increase followers' attention, the influence of virtual influencers, and the trust in human-driven virtual influencers.

Arsenyan & Mirowska (2021) state that storytelling offers followers of virtual influencers a distraction through an immersive experience that can act as social interaction; followers can immerse in a resemble of the real world, an alternative reality. Storytelling tells fictive or actual events that include information relevant to an overall message. Mystery (intrigue) is often used in storytelling. What can be found in mysteries is that all the characteristics of storytelling are exposed. All the universal elements that attract, e.g., love, death, fear, vengeance, and the fight between good and evil, often (but not necessarily) with the victory of the good, are used in plots

and subplots. A story that contains mystery is a goal in itself; there are no other purposes attached to it nor any particular skills required to enjoy it. Therefore mysteries are easily loved (Bianchi, 2014).

Narrative communication can be used as storytelling for persuasive purposes when a message elicits an emotional response from the receiver (Faddoul & Chatterjee, 2020). A good story immerses the listener. It evokes cognitive and emotional responses, so the listener experiences the story through a mental simulation of the story's actors, events, actions, places, and emotions as if they were being lived directly (Woodside et al., 2008). For instance, a post from Miquela in 2018: 'My hands are literary shaking. I am not a human being' gathered 219,284 likes and 47,122 comments on Instagram, primarily positive and supportive from followers touched by the fictive drama (Block & Lovegrove, 2021). Different "storylines" and the life of the virtual influencer can function as an escape from the followers' daily life, just as people empathise when watching a movie or a favourite television character (Arsenyan & Mirowska, 2021). This way, storytelling might strengthen the level of intrigue and engagement despite the uncertainty about the digital origins of the virtual influencer.

Traditionally, storytelling depended mainly on verbal language and more recently on written language, but in this digital era, video has also arisen as an essential storytelling medium (Woodside et al., 2008). Next to human-like functioning and feelings, audio-visual features in video and attractiveness help virtual influencers be influential and persuasive (Faddoul & Chatterjee, 2020; Khan & Sutcliffe, 2013).

Another crucial factor is ensuring followers do not feel actively or passively misled by the provided information, as mentioned in the previous paragraph of this section. As written by Wills (2019), people find virtual influencers "authentically fake"; they understand they are consuming staged content (Moustakas et al., 2020). Nevertheless, the "authentic" fakeness allows virtual influencers to bridge real and virtual worlds, publish content that entertains followers and provides a diversion (Arsenyan & Mirowska, 2021).

This study assumes that engaging storylines play a significant role in the impact of virtual influencers on perceptions of trust, intrigue, eeriness, and engagement levels. Therefore, it is hypothesised that the effect of the type of influencer (human-driven or Artificial Intelligence-driven) on these factors will be more significant when engaging storytelling is used than when no storytelling is applied. This leads to the following hypothesis:

H4: The effect of type of influencer (human-driven vs driven by AI) on trust (h4a), intrigue (h4b), level of eeriness (h4c), and engagement (h4d) will be stronger when storytelling is used (as opposed to no storytelling).

When the distinction from real cannot be made between real human beings and being virtual, storytelling can enhance the mystery and intrigue surrounding the influencer's identity. This study assumes that revealing virtual influencers' identities will affect trust, eeriness, intrigue, and engagement perceptions. Therefore, this effect will be more significant when engaging storytelling is used than when no storytelling is used. To see whether this is right, the following hypothesis is created:

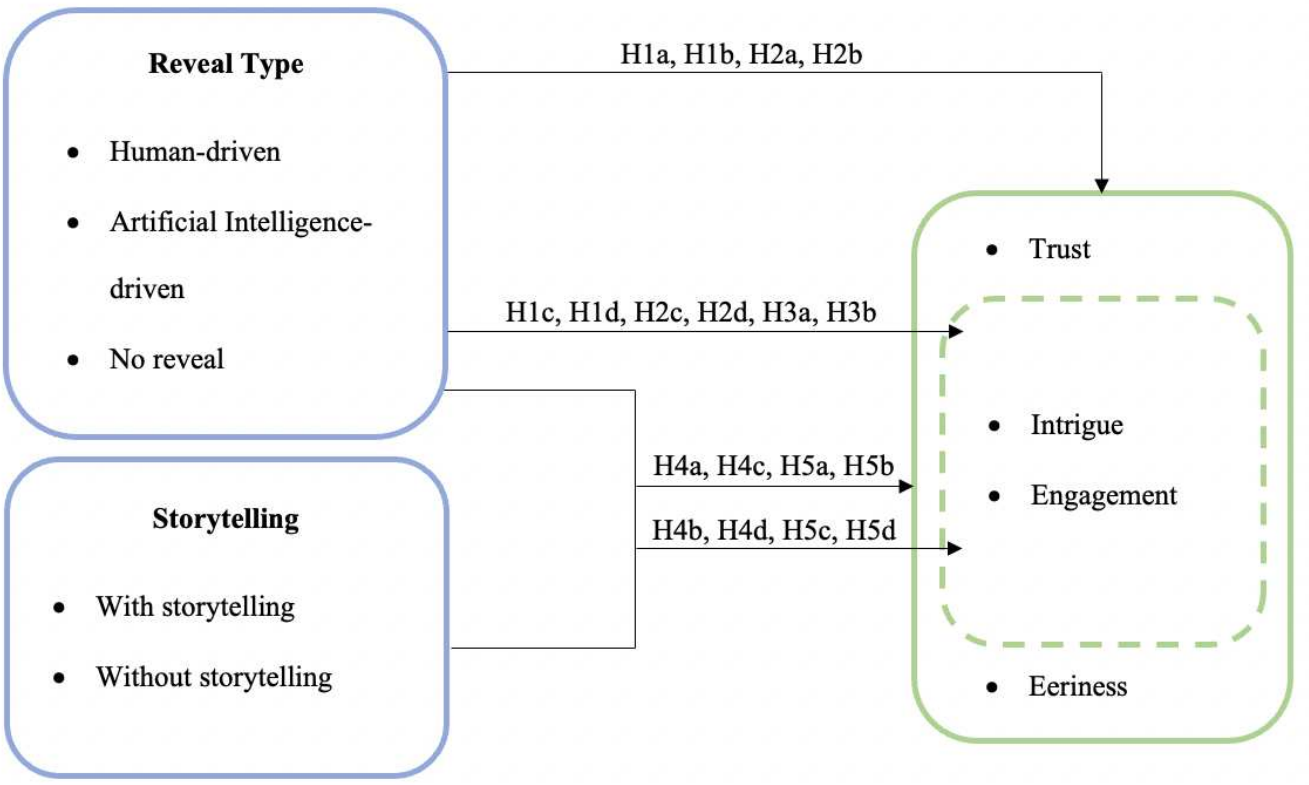
H5: The effect of identity reveal will lead to more trust (h5a), a lower level of eeriness (h5b), more intrigue (h5c), and more engagement (h5d) when storytelling is used (as opposed to no storytelling).

2.3 Research model

A research model is developed to show the relationship between the variables of interest. The model, presented in Figure 1, is designed to capture the interaction and dependencies among the various components of the variables under investigation. The model comprises several key components, including independent variables and dependent variables.

Figure 1

Research Model



3. Research Methodology

The following section contains the method that was used for the research. Research design, participants, stimuli design, pre-test and the procedure are described to provide a good understanding of the method used.

3.1 Research design

Quantitative research was conducted using an experimental study to examine how Artificial Intelligence, identity reveal & storytelling affect people's perceptions. As shown in Table 1, hypotheses were tested to answer the research question. Table 2 shows the 3 (reveal: no reveal, human-driven reveal, Artificial Intelligence-driven reveal) x 2 (storytelling: no storytelling, with storytelling) between-subjects experimental design. This design shows six experimental conditions that impact levels of trust, intrigue, engagement, and eeriness perceptions. Furthermore, no storytelling versus with storytelling will be manipulated. Each participant was shown one of the six experimental conditions assigned at random in an online survey (see Appendix D). The impact of the experimental conditions on the dependent variables trust, intrigue, eeriness and engagement were measured; statements were asked after the manipulations were shown.

3.2 Participants

The participants sample was selected using snowball sampling; peer students from the Netherlands and other countries were asked to participate through applications such as Whatsapp, Facebook and Instagram. Also, friends, family and club members of sports associations were approached to participate and forward the online questionnaire. The target group for this research was Instagram users aged above 18 years old and living in Europe. The beginning page of the survey excluded people from the research who do not live in Europe or do not use Instagram to delineate the investigation. The main survey consisted of an online

survey with six manipulations. Therefore 240 participants were needed to participate (40 per manipulation). A total of 379 people participated in the study. After filtering the surveys by age, country of residence and members of Instagram, 333 participants remained (N=333). The 333 participants consisted of 116 males and 217 females. Participants voluntarily took part in the online survey and were randomly assigned to one of the six manipulations (see Table 1).

Table 1

Factorial Design Table

Storytelling	Identity reveal		
	Human driven reveal (*N*=110)	*Artificial Intelligence-driven reveal* (*N*=110)	*No reveal* (*N*=113)
Storytelling			
With (*N*=168)	(*N*=57) With storytelling, with an identity reveal of the virtual influencer (Human-driven)	(*N*=56) With storytelling, with an identity reveal of the virtual influencer (AI-driven)	(*N*=55) With storytelling, without an identity reveal of the virtual influencer
Without (*N*=165)	(*N*=53) No storytelling, with identity reveal of the virtual influencer (Human-driven)	(*N*=54) No storytelling, with an identity reveal of the virtual influencer (AI-driven)	(*N*=58) No storytelling, without an identity reveal of the virtual influencer

Note. Representing the 3x2 Factorial Design between subjects, the six conditions.

3.3 Stimuli design

The stimuli consisted of Instagram visuals. Instagram was chosen for this research because a survey conducted by Mediakix indicated that almost 90% of marketers believed that Instagram is the most important platform for their influencer marketing (Statista, 2021). Participants were presented with stimuli of one of the six possibilities, as shown in Table 1. The results show an equal distribution of men and women across the conditions. The mean age was about the same

everywhere. Of the participants, 35% were men, and 65% were women. Only in the condition "Human-driven with storytelling" were significantly more men and fewer women.

3.3.1 Pre-test

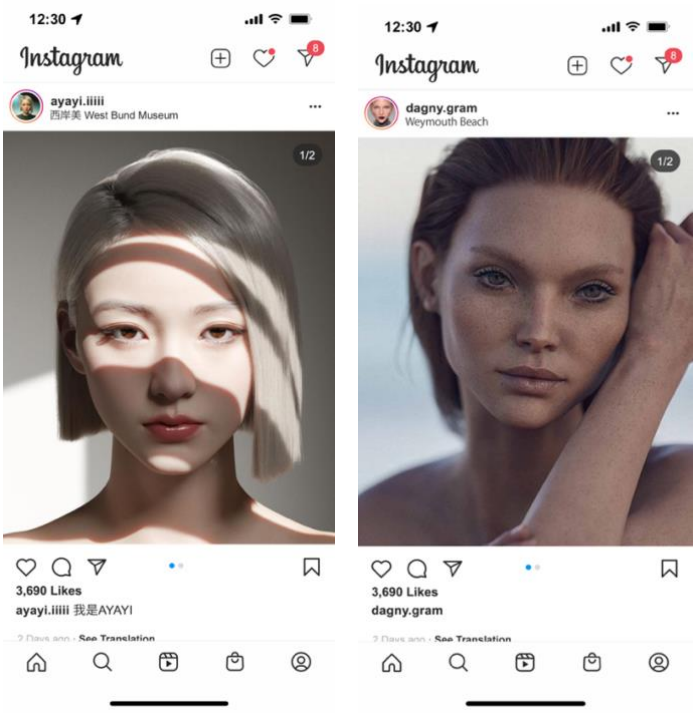
A pre-test was conducted in a focus group with six participants before the main survey. It was tested whether participants understood the information given to them and if they found the presented fictitious Instagram posts realistic. For this purpose, whether the influencer is distinguishable from real and whether the Instagram post is credible were tested. During the focus group, it became evident whether manipulations needed to be optimised/validated; potential problems regarding the stimuli could be detected and resolved in this way (e.g., unreadable, unclear, participants missing the manipulation). Five existing virtual influencers were used to design Instagram mock-ups, which were presented to the focus group to test which one could be used best for the main study. An example of the mock-ups is presented in Figure 2.

In addition, reveal was tested with different mock-ups to see if the text for no reveal, 'Artificial Intelligence-driven' reveal, and 'human-driven' reveal were realistic. An example of a mock-up regarding the reveal can be found in Figure 3. All the mock-ups of the pre-test can be found in Appendix A.

As a result of the focus group, mock-up four (see Figure 4) proved to be the best for the survey. According to the group, this mock-up looked most like the girl next door whom the whole school was in love with when she was younger. They saw her as the most 'real', and therefore they would believe her. For this reason, she scored high on trustworthiness, as opposed to the others who were seen as beautiful or models and, therefore, less 'real' and less trustworthy. Mock-up four was also rated very positive regarding the feeling they got from the depicted influencer.

Figure 2

Pre-test Example Influencers Stimuli



Note. Presenting two examples of virtual influencer mock-ups tested.

Additionally, this mock-up scored high on attractiveness and the highest on the credibility of all the presented mock-ups. Therefore, mock-up four was chosen as the influencer for the main study.

Regarding the text mock-ups for the reveal, the 'no reveal' text needed a minor change. The story about a model with a child travelling the world was not credible to the group, so suggestions were made: The influencer is not travelling for her work but working for one agency/brand nearby, or an explanation about the child's care (e.g., her mother or the father looked after the child when the influencer travels for her modelling job). Another suggestion was to skip the part about the child and let someone else be her inspiration. It has been decided to follow the last suggestion for the 'no reveal' text to make the mock-up as credible as possible, like the text for the other mock-ups.

Figure 3

Pre-test Example Reveal Stimuli

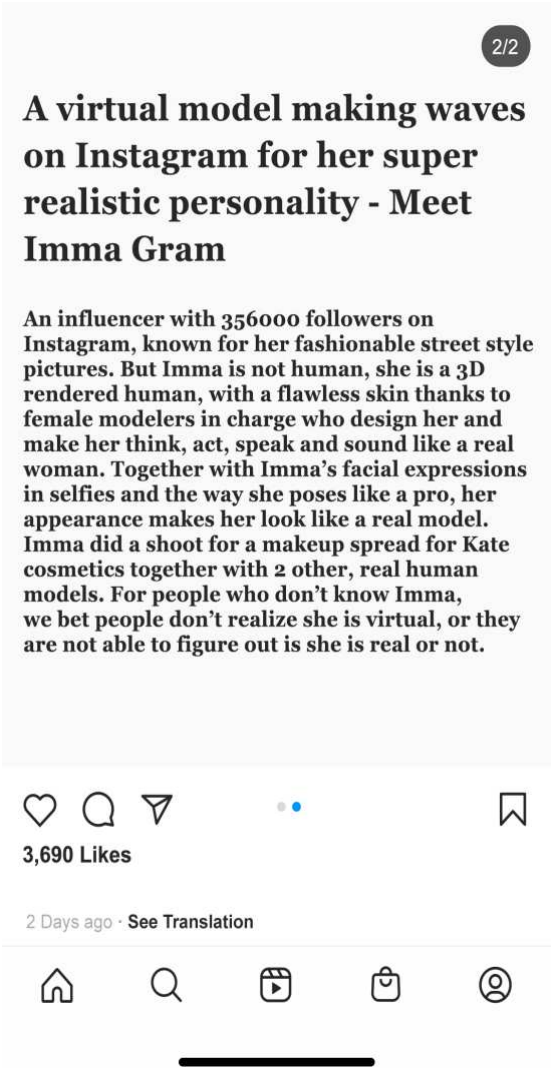


Figure 4

Main Study Influencer Stimulus

Note. Presenting the mock-up for human-driven reveal.

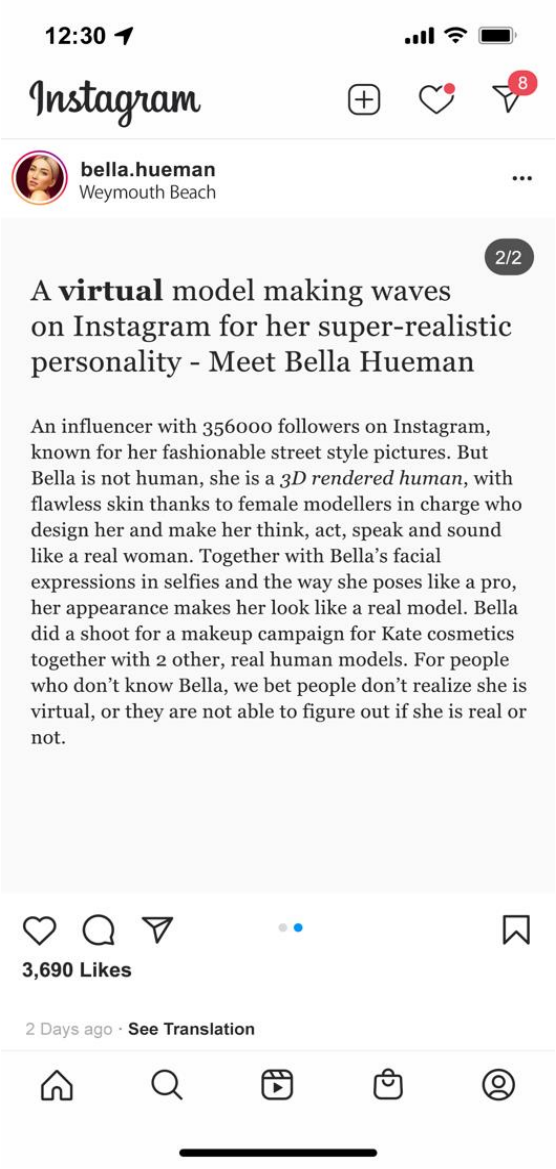
Additionally, the participants recommended changing the influencer's name (on her Instagram account). Changing the Instagram account name from 'Bermudaisbae' to 'Bella Hueman', the name of one of the other mock-ups, would create a higher rating regarding trustworthiness and credibility, according to participants. Therefore, this change also has been made. Furthermore, it was observed that reading the 'no reveal' mock-up took some time. It was therefore decided to make this text shorter.

In conclusion, the focus group contributed to the decision of the influencer used for the main survey (see Figure 4). Also, the influencer's name on the Instagram post has been changed,

and the 'no reveal' mock-up has been shortened. In addition, the manipulations in the text have been made more apparent by placing them in bold and italic. Altogether, resulting in the final mock-ups, as can be seen in Figure 4, Figure 5, Figure 6, and Figure 7. A summary of the focus group can be found in Appendix C.

Figure 5

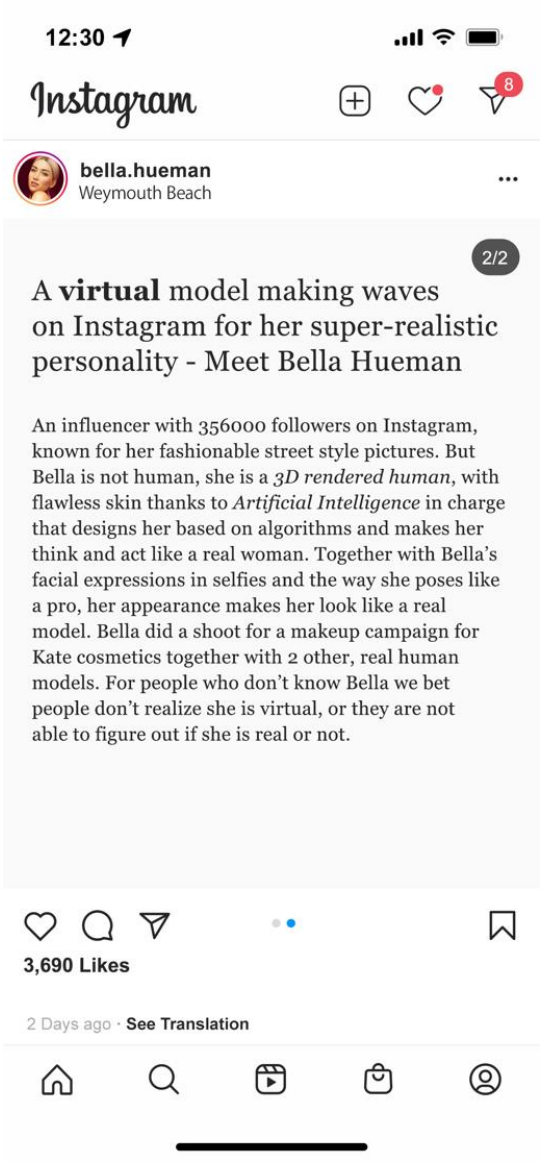
Main Study Human-Driven Reveal Stimuli



Note. The Dutch version can be found in Appendix D.

Figure 6

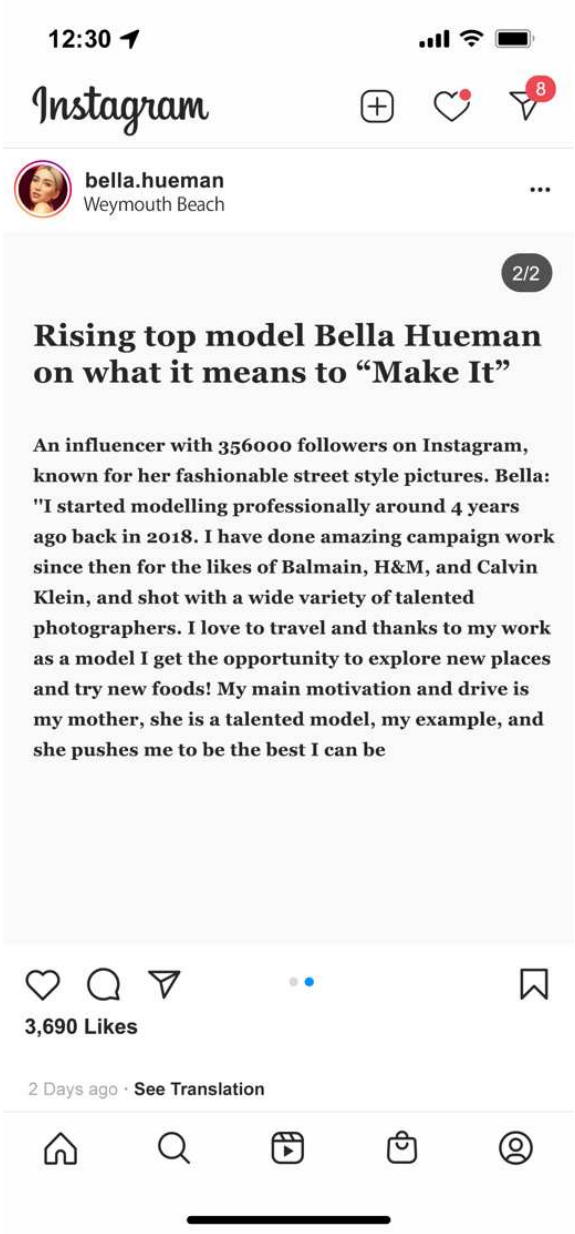
Main Study Artificial Intelligence-Driven Reveal Stimuli



Note. The Dutch version can be found in Appendix D.

Figure 7

Main Study No Reveal Stimuli



Note. The Dutch version can be found in Appendix D.

3.4 Stimulus materials

As shown in Table 1, the conditions consist of identity reveal (Human-driven, Artificial Intelligence-driven and no reveal) and storytelling (with or without). The influencer Bella Hueman was introduced with the short text 'Meet Bella Hueman, a girl from LA, an ambitious

model, and an influencer with a mission to contribute to a better world'. Also, a mock-up of the Instagram account of the influencer is shown, and a first impression is measured.

3.4.1 Storytelling & reveal

As shown in Table 1, three conditions consist of identity reveal (Human-driven, Artificial Intelligence-driven and no reveal) and storytelling (with or without). Those three (of the six conditions, the reveal conditions) contained the influencer mock-up shown in Figure 4 alongside the following storytelling:

'Please take a moment to read the following information before continuing. In an interview, Bella said: "Finally, I can live from what I love most: modelling. I used to be very fat and bullied, which made me sad. Children can be heartless. Because I had no friends, I lost myself in reading; books and many magazines. All those beautiful ladies I saw in magazines, I wanted to feel that way too! I started to immerse myself in a healthy lifestyle and lost a lot of weight. I feel beautiful and, more importantly, healthy! I want to pass this message on to all young people struggling with themselves: you are beautiful the way you are, but you must take good care of yourself to feel good. I share recipes and new products for a healthy lifestyle and a better world. I will soon add a picture of me in my younger years, so you can see the transformation. Follow your dreams; everything is possible!"'.

For condition one, the 'human-driven' reveal was placed in bold in the title. It was also mentioned in the text of the mock-up in italics, as seen in Figure 5.

Condition two contains the text mock-up for the 'Artificial Intelligence-driven' reveal (see Figure 6). Again, the reveal can be found in bold in the title and italics in the mock-up text.

Condition three contains the text mock-up for no reveal, as shown in Figure 7.

3.4.2 No storytelling & reveal

Conditions four, five and six, the no storytelling conditions, started with the Instagram visual presented in Figure 4. The other scenario mock-ups can be seen in Figure 5, Figure 6, and Figure 7. Participants were shown only the following text in addition to the mock-up:

'In the following, a post of Bella her Instagram account is shown. Please take a moment to read the following information before continuing'.

For condition four, the text mock-up for 'human-driven' reveal was shown with the reveal placed in bold in the title and mentioned in italics in the mock-up text, as seen in Figure 5.

Condition five contains the text mock-up for the 'Artificial Intelligence-driven' reveal next to the text, as stated above. The 'Artificial Intelligence-driven' reveal can be found in bold in the title and the mock-up text in italics, as shown in Figure 6.

With condition six, the text mock-up for no reveal was shown, as shown in Figure 7. Furthermore, the dependent variables trust, intrigue, engagement, and eeriness regarding the influencer posts shown were addressed in statements and slide bars that participants were asked to rate.

Finally, the purpose of the study was mentioned again, and participants were thanked for their time completing the survey. The survey was available in English and Dutch to obtain a higher response rate.

3.5 Procedure

Qualtrics, an online survey program, was used to compose the online questionnaire and to present the mock-ups in different conditions. The Ethics Committee of the University of Twente approved this study before participants received a link to the questionnaire in Qualtrics (see

Appendix B). The survey started with informing participants about the purpose of this study, possible risks of participating and if they agreed to participate in this research, followed by a short instruction. Next, (socio)-demographic information, like age, gender, nationality, country of residence, Instagram use, and familiarity with social influencers, were asked. Participants without Instagram and a country of residence outside the EU were directed to the end of the survey since the target group is Instagram users in Europe. The questionnaire was available in English and Dutch; this way, Dutch participants but also participants in other countries could fill in the online questionnaire.

Then, the influencer Bella Hueman was introduced, and a first impression was measured.

In the following, participants saw a scenario consisting of a story (for the storytelling conditions) accompanied by an illustrated Instagram visual of the influencer, and an illustrated Instagram post with text. It was emphasized to read and review the presented scenario carefully. Participants were randomly assigned to one of the six conditions, as can be seen in Table 2.

3.6 Measurements

As stated in the previous section, the dependent variables trust, intrigue, engagement, and eeriness are measured in the online questionnaire. Other measured variables are (socio-) demographics, familiarity with influencers and the first impression of the influencer.

Trust

Seven statements were used to measure trust, using a 7-point Likert scale ranging from strongly disagree to strongly agree. An example of a statement is: *"*I believe that Bella Hueman only promotes things she sincerely tested and likes*"*. The measurement statements were adapted from Ohanian, 1990 and Laroche et al., 2012 and can be found in Appendix E. The original seven statements formed a reliable scale (Cronbach's alpha is .93).

Intrigue

Intrigue measurements are based on curiosity and measures are adapted from Kashdan et al., 2020. Five items with a 7-point Likert scale ranging from strongly disagree to strongly agree were used for the measurements. An example of an item is: "Bella Hueman fascinates me, I would follow her on Instagram*"*. The five original statements formed a reliable scale (Cronbach's alpha is .82), but by deleting one, the coefficient increased alpha (Cronbach's alpha is .95). The five original items can be found in Appendix E, among which the third was deleted.

Engagement

Engagement was measured using cognitive-, affective- and behavioural engagement. Three statements were used to measure cognitive engagement, using a 7-point Likert scale ranging from strongly disagree to strongly agree. An example of a statement is: *"*My interest to learn more about Bella Hueman would be stimulated when interacting with her.*"*. For affective engagement, four statements were used. An example for this is *"*My interest to learn more about Bella Hueman would be stimulated when interacting with her*"*.

Another four items were used to measure behavioural engagement, both with the same scale as used for cognitive engagement. An example of an item is: *"*I intend to buy products promoted by Bella Hueman*"*.

Cognitive and affective engagement measurements were adapted from Hollebeek et al., 2014; behavioural engagement measurements were adapted from Berne-Manero & Marzo-Navarro, 2020 (see Appendix E).

Creating three different scales (cognitive, affective, and behavioral) did not result in three different components after doing a factor analysis. Therefore, the variable engagement was computed with all 11 items forming a reliable scale (Cronbach's alpha is .95). Afterwards, the reliable scale was improved by removing the first item from the list as can be found in Appendix E.

Eeriness

To measure eeriness, four components were used, consisting of two questions using a 7-point Likert scale. The first component ranges from strongly negative feeling to strongly positive feeling. The second component ranges from strongly unrealistic to strongly realistic. The other two components consist of slide bars, one using a 7-point Likert scale from 1, very uncomfortable, to 7, very comfortable. The other uses a scale from 1 to 7 for the following items: dull – exciting, predictable – unpredictable, plain – weird, and ordinary – supernatural. The statements to measure eeriness were adapted from Ho & MacDorman, 2016. An example of a question is: *"*Do the presented visuals and texts give you a positive or negative feeling?*"*. The four statements formed a reliable scale (Cronbach's alpha is .83). All measurements can be found in Appendix E.

4. Results

The results of the online experimental study can be found in this section. Initially, a dummy variable defining 'reveal' (with or without reveal) was created to test whether reveal affects the dependent variables of interest. Furthermore, the same experiment is carried out using this time 'reveal type' as an independent variable, including three groups: no reveal, human-driven and Artificial Intelligence-driven. First, the effects of the independent variables on the dependent variables are explained. Second, the main effects are described.

4.1 Effect of identity reveal in Multivariate analysis of variance (MANOVA)

A dummy variable is created to test the effect of a reveal regardless of the type of virtual influencer as compared to no reveal of the identity of the influencer. This Wilks' Lambda test shows that there is a significant main effect of reveal type (when operationalized as a dummy variable) on the combined dependent variables (Λ = 0.945, $F(4,322) = 4.70$), p = 0.001). However, there was no significant main effect of storytelling (Λ = 0.997, $F(4,322) = 0.23$), p = 0.920). Lastly, no significant interaction effect between variables was found (Λ = 0.992, $F(4,322) = 0.66$), $p = 0.622$).

4.1.1. Main effect identity reveal on dependent variables

A significant main effect of dummy reveal was found on three of the dependent variables. A summary of the means (M) and standard deviations (SD) of the dependent variables trust, intrigue, engagement and eeriness is shown in Table 2.

When using the variable reveal as a dummy variable, a main effect of reveal on trust is shown ($F(1,325)=12.50$, p = 0.004) and eeriness ($F(1,325)=17.74$, p = 0.005). There is also a marginally significant main effect on engagement ($F(1,325)=4.90$, p = 0.080) at an alpha level of 10%. However, the dummy variable has no main effect on intrigue. The descriptive table on the next page (see Table 6) shows that there was less trust when the virtual identity of the

influencer was revealed (M=2.81, SD = 0.08) than when the virtual identity was not revealed (M=3.23, SD=0.11). Regarding eeriness, a reveal of being virtual (M=4.20, SD = 0.10) resulted in more eeriness than no reveal of being virtual (M=3.71, SD = 0.514). Lastly, people were more engaged when the virtual identity was not revealed (M=2.87, SD = 0.512) than when it was revealed (M=2.61, SD = 0.08).

Table 2

Summary of Means (M) and Standard Deviations (SD) for Dummy Variable

	Reveal *N*=217		No reveal *N*=112	
	M	*SD*	*M*	*SD*
Trust	2.81	0.08	3.23	0.11
Intrigue	2.65	0.09	2.65	0.14
Engagement	2.61	0.08	2.87	0.12
Eeriness	4.20	0.10	3.71	0.14

Note. Dummy variable for reveal.

4.2 Effect of identity reveal types in Multivariate analysis of variance (MANOVA)

To research the effects of reveal type (human-driven, Artificial Intelligence-driven or no reveal) and the effect of storytelling (no storytelling or with storytelling) on trust, intrigue, engagement, and eeriness, a multivariate analysis of variance (MANOVA) was conducted. Furthermore, the interaction effect of reveal type and storytelling was also examined in this analysis.

A Wilk's Lambda has been conducted to examine the effects between the independent variables (reveal type and storytelling) and combined dependent variables (trust, intrigue, engagement, and eeriness). This Wilks' Lambda test shows that there is a significant main effect of reveal type on the combined dependent variables ($\Lambda = 0.932$, $F(8,640) = 2.874$), $p = 0.004$) at an alpha level 5%. However, there was no significant main effect of storytelling ($\Lambda = 0.994$, $F(4,320) = 0.497$), $p = 0.738$). Lastly, no significant interaction effect between variables was found ($\Lambda = 0.991$, $F(8,640) = 0.381$), $p = 0.931$).

4.2.1. Main effect of reveal type on dependent variables

A significant main effect of reveal type on three of the dependent variables was found, as shown in Table 3. A summary of the means (*M*) and standard deviations (*SD*) of the dependent variables trust intrigue, engagement and eeriness is shown in Table 4.

Table 3

Test of Between Subjects' Design Effect for Reveal Type

Independent variable	Dependent variable	*F*	*p*
Reveal type: Human-driven/ Artificial-Intelligence / No reveal	Trust	5.81	0.003
	Intrigue	0.44	0.642
	Engagement	2.51	0.083
	Eeriness	4.17	0.016

This MANOVA2 analysis shows that the reveal type has a significant main effect on trust ($F(2,323) = 5.81$, $p = 0.003$). The descriptive table shows that when there is no reveal of the identity of the virtual influencer, respondents show more trust ($M = 3.22$, $SD = 0.11$) than when there is a reveal of being an Artificial Intelligence-driven virtual influencer ($M = 2.96$, $SD = 0.11$). Surprisingly, Artificial intelligence-driven virtual influencers seem to be more trusted than human-driven ones ($M = 2.66$, $SD = 0.11$).

Next, reveal type has a significant main effect on eeriness ($F(2,323) = 4.17$, $p = 0.016$) at an alpha level of 5%. The descriptive table shows that respondents show more eeriness towards Artificial Intelligence-driven virtual influencers ($M = 4.25$, $SD = 0.14$) than towards human-driven ones ($M = 4.14$, $SD = 0.14$). Moreover, human-driven virtual influencers cause more eeriness than when the identity was not revealed (no reveal) ($M = 3.71$, $SD = 0.14$).

Finally, reveal type has a marginally significant main effect on engagement ($F(2,323) = 2.51$, $p = 0.083$) at an alpha level of 10%. The descriptive table shows that when not revealing

the identity of the influencer (no reveal), respondents show more engagement (M = 2.87, SD = 0.12) than for Artificial Intelligence-driven influencers (M = 2.73, SD = 0.12). Surprisingly, Artificial intelligence-driven influencers generate more engagement than human-driven ones (M = 2.49, SD = 0.12).

Although the effect of reveal type was not statistically significant on intrigue, it can still be noted that human-driven influencers gained a lower level of intrigue (M = 2.55, SD = 0.13) than influencers driven by Artificial intelligence (M = 2.74, SD = 0,12). Respondents were more engaged when the identity was not revealed (M = 2.87, SD = 0.12) than when the influencer was revealed to be virtual and Artificial Intelligence-driven.

Table 4

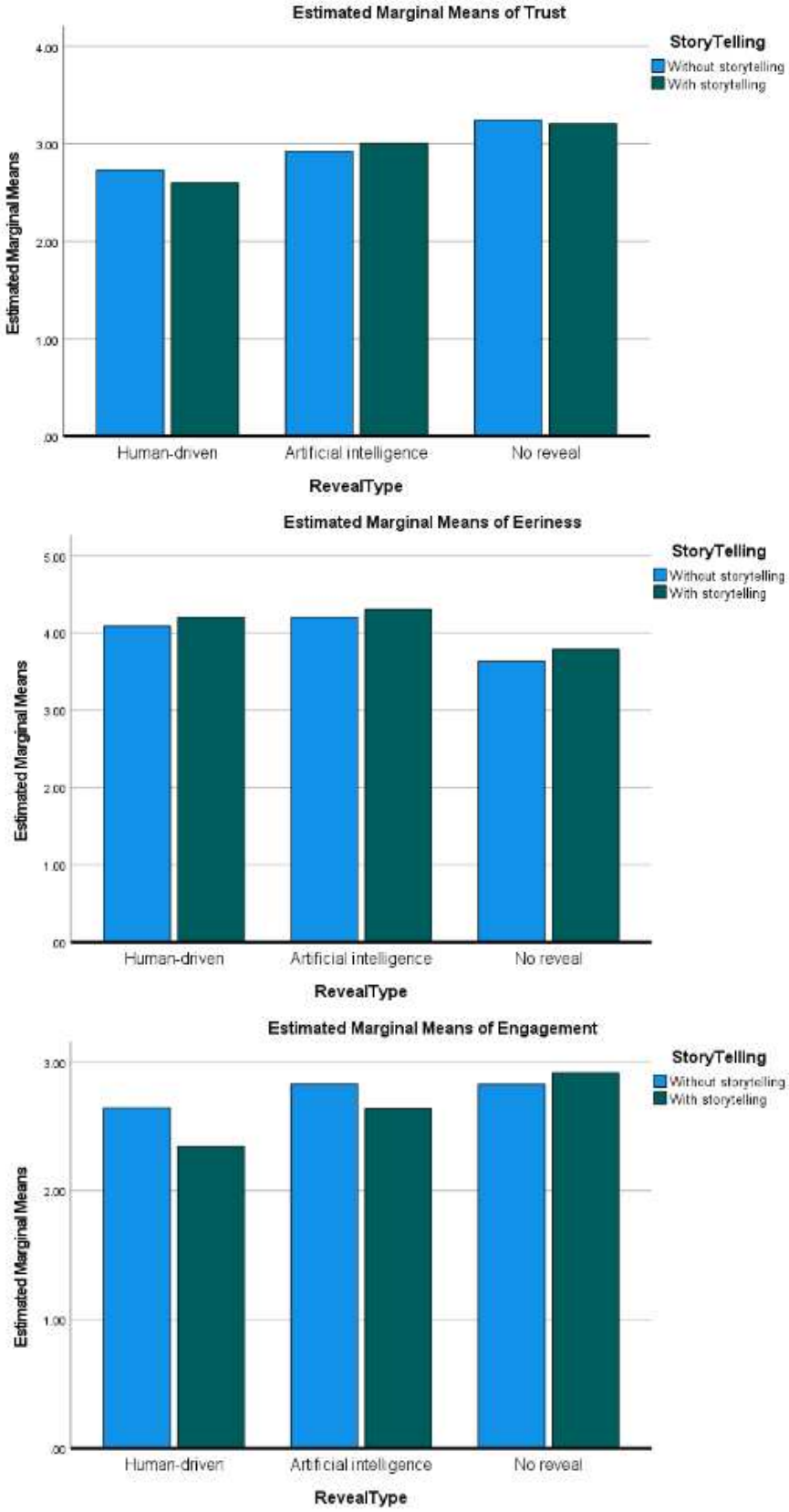
Summary of Means (M) and Standard Deviations (SD) of Reveal Type

	Human-driven *N*=108		Artificial Intelligence-driven *N*=109		No reveal *N*=112	
	M	*SD*	*M*	*SD*	*M*	*SD*
Trust	2.66	0.11	2.96	0.11	3.22	0.11
Intrigue	2.55	0.14	2.74	0.14	2.65	0.13
Engagement	2.49	0.12	2.73	0.12	2.87	0.12
Eeriness	4.14	0.14	4.25	0.14	3.71	0.14

Figure 8 provides a clear visualization of the results presented, where the significant main effect of reveal type on trust and eeriness was found. Furthermore, the effect was marginally significant for the variable engagement.

Figure 8

Differences in Trust, Eeriness, and Engagement Across Items of Reveal Type



Note. Significant Interaction Found in Estimated Marginal Means.

4.2.2. Main effect of storytelling on dependent variables

No significant main effect of storytelling on the dependent variables was found; results are shown in Table 5. A summary of the means (*M*) and standard deviations (*SD*) of the dependent variables trust, intrigue, engagement, and eeriness is shown in Table 6.

Table 5

Test of Between Subjects Design Effect for Storytelling

Independent variable	Dependent variable	*F*	*p*
Storytelling:	Trust	0.05	0.828
With storytelling /	Intrigue	0.20	0.654
Without storytelling	Engagement	0.92	0.337
	Eeriness	0.58	0.456

The analysis of the dependent variables in Table 10 shows that there is no main effect of storytelling on any of the variables of interest, no *p*-value is lower than alpha. This table shows no difference in trust, intrigue, engagement, or eeriness between the groups of people exposed to storytelling and those who were not.

Table 6

Summary of Means (M) and Standard Deviations (SD) of Storytelling

	With storytelling *N*=167		Without storytelling *N*=162	
	M	*SD*	*M*	*SD*
Trust	2.94	0.09	2.96	0.09
Intrigue	2.61	0.11	2.68	0.11
Engagement	2.63	0.09	2.76	0.09
Eeriness	4.10	0.11	3.97	0.11

4.2.3. Interaction effect of reveal type and storytelling

The interaction effect of the dependent variables reveal type and storytelling was investigated. With an alpha level of 5%, no interaction was found between the independent variables reveal type and storytelling on the variables of interest, as shown in Table 7. This analysis shows no differences in trust, intrigue, engagement, and eeriness between the groups exposed to storytelling and those not exposed to storytelling, regardless of the virtual influencer reveal type. A summary of the means (*M*) and standard deviations (*SD*) of the dependent variables trust, intrigue, engagement, and eeriness are shown in Tables 8 and 9.

Table 7

Test of Between Subjects Design Effect for Interaction

Independent variable	Dependent variable	*F*	*p*
*Reveal type*Storytelling*	Trust	0.20	0.817
	Intrigue	0.25	0.777
	Engagement	0.70	0.495
	Eeriness	0.01	0.990

Table 8

Summary Means (M) and Standard Deviations (SD) of Interaction - Part 1

With storytelling	Human-driven *N*=110		Artificial Intelligence-driven *N*=110		No reveal *N*=112	
	M	*SD*	*M*	*SD*	*M*	*SD*
Trust	2.60	0.16	3.00	0.16	3.21	0.16
Intrigue	2.45	0.19	2.70	0.19	2.69	0.19
Engagement	2.34	0.21	2.63	0.20	2.91	0.20
Eeriness	4.20	0.10	4.30	0.20	3.78	0.20

Note. Interaction = Reveal type*Storytelling

Table 9

Summary Means (M) and Standard Deviations (SD) of Interaction - Part 2

Without storytelling	Human-driven *N*=110		Artificial Intelligence-driven *N*=110		No reveal *N*=112	
	M	*SD*	*M*	*SD*	*M*	*SD*
Trust	2.73	0.17	2.92	0.17	3.24	0.17
Intrigue	2.65	0.20	2.78	0.20	2.62	0.19
Engagement	2.64	0.18	2.82	0.18	2.82	0.17
Eeriness	4.01	0.21	4.20	0.21	3.63	0.20

Note. Interaction = Reveal type*Storytelling

5. Hypothesis Overview

The hypotheses tested with the online experimental design and whether the hypotheses are supported or rejected as result of this qualitative research is shown in Table 10.

Table 10

Hypotheses Overview and Results

Hypotheses	Results
H1a: No reveal of influencers being virtual influencers gains more trust than a reveal (of influencers being virtual influencers).	Supported
H1b: No reveal of influencers being virtual influencers gains a lower level of eeriness than a reveal (of influencers being virtual influencers).	Supported
H1c: No reveal of influencers being virtual influencers gains more a lower level of intrigue than a reveal (of influencers being virtual influencers).	Rejected
H1d: No reveal of influencers being virtual influencers gains higher engagement than a reveal (of influencers being virtual influencers).	Supported *(Marginally significant)*
H2a: Human-driven virtual influencers gain more trust than Artificial-driven virtual influencers.	Rejected
H2b: Human-driven virtual influencers gain a lower level of eeriness than Artificial-driven virtual influencers.	Supported
H2c: Human-driven virtual influencers gain a lower level of intrigue than Artificial-driven virtual influencers.	Rejected
H2d: Human-driven virtual influencers gain higher engagement than Artificial-driven virtual influencers.	Supported
H3a: Reveal about being virtual makes people more intrigued than when no effort is made to hide the digital origins of the virtual influencer.	Rejected
H3b: Reveal about being virtual makes people more engaged than when no effort is made to hide the digital origins of the virtual influencer.	Rejected

Table 10 (continued).

Hypotheses		Results
H4:	The effect of type of influencer (human-driven vs driven by AI) on trust (h4a), intrigue (h4b), level of eeriness (h4c), and engagement (h4d) will be stronger when storytelling is used (as opposed to no storytelling).	Rejected
H5:	The effect of identity reveal will lead to more trust (h5a), a lower level of eeriness (h5b), more intrigue (h5c), and more engagement (h5d) when storytelling is used (as opposed to no storytelling).	Rejected

6. Discussion & Limitations

This study examined the effect of a reveal of an influencer being virtual on trust, intrigue, eeriness, and engagement of audiences (people who get to see the influencer). For the reveal, two different types of reveal were used; namely, human-driven reveal, and Artificial Intelligence-driven reveal. In addition, it was examined whether the effect is stronger in the context of storytelling.

This study found evidence that reveal impacts trust, eeriness, intrigue, and engagement. However, the identity reveal was found to lower the level of the dependent variable engagement. Interestingly, the findings for storytelling showed no main effects.

6.1. Discussion of the results

The findings complement the existing literature, as this study provides new information about the effect of reveal type and the use of storytelling when investigating virtual influencers. The following section will discuss the findings of the factors reveal, reveal type and storytelling, and the interaction between these factors. In addition, the limitations of this study and recommendations for future research are provided.

The results show that reveal generally influences perceptions of trust, eeriness, and engagement towards a virtual influencer. In addition, evidence of the impact of reveal type on the same perceptions was found. Lastly, no effect was found for storytelling or the interaction between reveal type and storytelling on the perceptions mentioned above.

Reveal

The findings of this research support Hypothesis 1a, which predicted that participants who did not see a reveal of the influencer being virtual would gain more trust than those who did see a reveal, regardless of the type of reveal. Additionally, the study found that the reveal impacted the perceptions of eeriness but not the levels of intrigue or engagement.

These findings suggest that virtual influencers who want to be perceived as trustworthy should avoid revealing their virtual nature to their followers. This is consistent with existing literature suggesting that trust is built through positive emotions and close relationships between influencers and followers (Chung & Cho, 2017). By not revealing their virtual nature, virtual influencers can foster these positive emotions and build trust with their followers. However, it is important to note that the study only examined the impact of the reveal on trust, eeriness, intrigue, and engagement. Other factors, such as the content and personality of the influencer, may also play a role in building trust with followers. Future research could explore these additional factors and their impact on perceptions of virtual influencers.

Additionally, hypothesis 1b predicted that participants who did not see a reveal of the influencer being virtual would experience a lower level of eeriness than those who did see a reveal, regardless of the type of reveal. This suggests that revealing the virtual nature of an influencer may increase feelings of eeriness among followers. The findings of this research support hypothesis 1b. This is consistent with existing literature that suggests that virtual influencers can create an uncanny feeling among their followers because they appear very human. This can lead to feelings of unease or eeriness, which may negatively impact the relationship between the influencer and their followers. According to Arsenyan & Mirowska (2021), virtual influencers can remove doubt and reduce these feelings of eeriness by revealing their virtual nature.

Furthermore, a possible impact was found for engagement. However, people were more engaged when the virtual identity was not revealed than when it was revealed. Hypothesis 1d predicted that participants who did not see a reveal of the influencer being virtual would have higher engagement than those who did see a reveal, regardless of the type of reveal. The findings suggest that not revealing an influencer's virtual nature may increase followers' engagement, supporting hypothesis 1d to a certain extent. However, it is important to note that further research is needed to confirm these findings.

In addition, the study found that the reveal did not affect levels of intrigue, which suggests that followers may still be intrigued by virtual influencers even if their virtual nature is revealed. These findings lead to the rejection of hypothesis 1c. The findings suggest that revealing the virtual nature of an influencer may not have an impact on levels of intrigue but may impact levels of engagement. Not revealing the virtual nature of an influencer may create a sense of mystery or intrigue that encourages followers to engage with the influencer's content (Choudry et al., 2022). However, further research is needed to explore this relationship in more detail.

Moreover, as stated in hypothesis 3, this study expected that a reveal about being virtual makes people more intrigued and engaged than when no effort is made to hide the digital origins of the virtual influencer. Different "storylines" with an effort to hide the digital origins might strengthen the level of intrigue and engagement despite the level of uncertainty about the digital origins of the virtual influencer. Just as people empathize when watching a movie or a favourite television character, these storylines and the virtual influencer's life can be an escape from the followers' daily life (Arsenyan & Mirowska, 2021). Looking at a "reveal versus no reveal", a possible effect on engagement can be seen. However, according to the results, reveal has no impact on intrigue, resulting in the rejection of hypothesis 3a. According to Choudry et al. (2022), intrigue among (possible) followers of virtual influencers can be generated and retained through story-driven creative and engaging content. This means that the content shared by virtual influencers should focus on creating engaging experiences for their followers rather than just revealing their digital origins. One possible reason for these results could be that the text mock-ups used in the study needed to be more creative and engaging to generate the desired level of intrigue.

When looking at the results, it is shown that with a reveal of being virtual, people were less engaged than when the virtual identity was not revealed. This finding results in the rejection of hypothesis 3b. Intrigue can lead to persistent user engagement as followers enjoy the experience of being in the virtual world and not knowing what will happen (Choudry et al.,

2022). Since no effect of intrigue was found, this can be the explanation that people were less engaged when there was a reveal.

The results suggest that not revealing the virtual nature of an influencer is the better option, as it leads to more intrigue and engagement among followers. However, the influencer's purpose and followers' expectations should be carefully considered before revealing their digital origins.

Reveal type

When zooming in on the results of this study's specific influencer types for reveal, an effect of reveal type can be seen. In line with the findings in the previous paragraph, respondents showed more trust when there was no reveal of the virtual identity. The study's findings show that the assumption that human-driven virtual influencers gain more trust than Artificial Intelligence-driven virtual influencers is not supported. Artificial Intelligence-driven virtual influencers were found to be more trusted than human-driven ones, which is unexpected. This may be because Artificial Intelligence-driven virtual influencers can interact socially using conversation and emotional expressions, making them seem more like real social agents (Purington et al., 2017). However, people's caution and conservatism regarding algorithm-driven machines' decision-making processes may be a factor that decreases trust in human-driven virtual influencers (Kolasińska et al., 2019). This might be because the media fed possible future negative effects of using Artificial Intelligence, such as greater economic inequality, global increases in unemployment, and restrictions on individual freedom (Crockett et al., 2020; Holder et al., 2021). Nevertheless, since the results did not support the assumption of hypothesis 2a, it is rejected.

In addition, hypothesis 2b aimed to investigate whether human-driven virtual influencers would elicit a lower level of eeriness compared to Artificial Intelligence-driven virtual influencers. The results indicate that human-driven virtual influencers cause less eeriness than

Artificial Intelligence-driven virtual influencers, supporting hypothesis 2b. One possible explanation for this finding is that human-driven virtual influencers are more relatable to people as they possess human-like qualities such as emotions, gestures, and expressions (Khan & Sutcliffe, 2013; Mori et al., 2012). On the other hand, Artificial Intelligence-driven virtual influencers may seem more distant and disconnected as they need more human-like qualities that are familiar to people. Additionally, the media has often portrayed Artificial Intelligence as a potential threat to humanity, leading people to view them more cautiously (Crockett et al., 2020; Holder et al., 2021). Furthermore, the level of trust people have in companies that develop these virtual influencers and how they use people's personal data also may play a role in the level of eeriness people experience.

Overall, the findings suggest that people are more comfortable with human-driven virtual influencers than Artificial Intelligence-driven virtual influencers, possibly due to concerns about privacy and trust. As companies continue developing virtual influencers, they should consider the level of eeriness they may elicit and take steps to build trust and address privacy concerns.

Furthermore, this study investigated the impact of human-driven and Artificial Intelligence-driven virtual influencers on audience engagement. The results revealed some interesting insights, particularly concerning hypothesis 2d, which predicted that human-driven virtual influencers would generate higher engagement than their Artificial Intelligence-driven counterparts. Respondents showed more engagement when there was no reveal of the influencer's identity. This suggests that people may be more willing to engage with virtual influencers when they are unaware of whether they are human-driven or Artificial Intelligence-driven. This leads to the support for hypothesis 2d.

In the future, when Artificial Intelligence-driven influencers exist, they will be designed to be highly personalised and relevant to their audiences' individual interests and preferences, which can create a stronger connection and higher engagement (Block & Lovegrove, 2021). In

contrast, human-driven virtual influencers may need more support in personalising their content and engaging with people in a highly tailored manner. The personalised and relevant nature of Artificial Intelligence-driven virtual influencers may give them an advantage in engaging with audiences. This highlights the importance of considering virtual influencers' specific features and capabilities when designing marketing campaigns and strategies for engaging with their audience in the future.

The findings of this study provide interesting insights into the role of human-driven and Artificial Intelligence-driven virtual influencers in engaging audiences. Contrary to the stated hypothesis 2c, the results indicate no impact on intrigue between the two types of virtual influencers. Therefore, hypothesis 2c is rejected. The studies by Crockett et al. (2017) and Purington et al. (2020) provide information on the adoption of Artificial Intelligence. A possible issue is whether the virtual influencer creates an unnerving feeling in the follower, the so-called uncanny valley. The results for intrigue may be different than expected because virtual influencers can convey the uncanny valley feeling when no reveal has yet been made that they are virtual influencers. Such a factor could hinder the adoption of Artificial Intelligence (Davenport et al., 2019). And with it, the adoption of Artificial Intelligence-driven influencers. Instead of intrigue, the unnerving feeling of the uncanny valley predominates. Overcoming the uncanny valley is a challenge. The tipping point of the uncanny valley varies from person to person. However, it generally occurs when the artificial creation reaches a degree of realism so that it looks and behaves almost humanly. One approach is intentionally stylising the creation, making it look less realistic but aesthetically appealing. Another approach is to emphasise the functionality of the creation rather than its appearance, emphasising utility rather than human qualities.

Additionally, it is observed that human-driven virtual influencers gained a lower level of intrigue than those driven by Artificial intelligence. These findings suggest that virtual influencers driven by Artificial intelligence may have an edge over human-driven influencers

in terms of engaging audiences. This could be attributed to the novelty and perceived futuristic appeal of Artificial Intelligence, which can intrigue and fascinate people more than the human element.

Another possible explanation for these findings could be that human-driven virtual influencers may be perceived as less authentic or genuine than their Artificial Intelligence-driven counterparts. As people become more aware of the role of virtual influencers in marketing and advertising, they may be more inclined to trust virtual influencers driven by AI since they do not have the biases and limitations of human influencers.

This study highlights the complex interplay between virtual influencers and engagement with people. While intrigue may not be affected by the type of influencer, the perceived authenticity and novelty of Artificial Intelligence-driven influencers may give them an advantage in capturing and maintaining audiences' attention.

Looking at this study's results, the advice is to use no reveal of the identity of virtual influencers. It is essential not to make the virtual influencer look too real to avoid an uncanny feeling. People's affinity can be obtained until a certain point when a level of eeriness is reached (Mori et al., 2012). In case of a reveal, the results show people are more comfortable with human-driven virtual influencers than Artificial Intelligence-driven virtual influencers, which could be due to concerns about privacy and trust. Therefore, companies developing virtual influencers should consider the level of eeriness they may elicit and take steps to build trust and address privacy concerns. Moreover, people may be more willing to engage with virtual influencers when they are unaware of whether they are human-driven or Artificial Intelligence-driven.

However, it is essential to note that the impact of reveal on intrigue is only partially proved in this study. Therefore, it may have little impact on capturing and maintaining audiences' attention. Revealing the identity of virtual influencers can help build trust and address privacy concerns, which are essential factors for audiences to engage with them.

Overall, the decision to reveal or not reveal the identity of virtual influencers should be based on the specific goals of the marketing campaign and the target audience. Companies should consider each option's potential benefits and drawbacks and make an informed decision based on their specific needs.

Storytelling

In contrast to the assumptions in hypotheses 4 and 5, the results show that storytelling did not play a role when there is a reveal. According to Faddoul & Chatterjee (2020), it is required to create a robust creative approach to reach the target group at an emotional and personal level to develop a long-lasting one-directional relationship with a virtual influencer. Although pre-test participants found the fictional storytelling realistic when a few changes were made, the effect of influencer type (human-driven vs Artificial Intelligence-driven) on trust, intrigue, level of eeriness and engagement did not appear to be stronger when this storytelling is used (as opposed to no storytelling). Moreover, the effect of identity reveal did not lead to more trust, lower levels of eeriness, more intrigue, and more engagement when this storytelling is used (as opposed to no storytelling) as expected, despite the changes in design. As a result, hypotheses 4 and 5 are rejected.

A possible explanation for these results could be that the used storytelling needed to be more creative and engaging for the participants in this study. Miquela's creator Brud shows that storytelling can be an effective strategy (Block & Lovegrove, 2021). Therefore, it is recommended that marketers and influencers who use virtual influencers to build trust and engagement with their audience should focus on developing a robust creative approach that reaches their target audience emotionally and personally. This approach could include more engaging and creative storytelling techniques that capture the audience's attention and build a stronger connection with the influencer.

Interaction

In contrast to hypotheses 4 and 5, the results show that reveal type and storytelling did not have a combined effect on the outcome. It was expected that storytelling would have a more positive effect on the audiences' perception of the type of influencer (human-driven vs driven by Artificial Intelligence) than when no storytelling is used. Also expected was that the effect of identity reveal would lead to more trust, a lower level of eeriness, more intrigue, and more engagement when storytelling is used (as opposed to no storytelling). The main reason for this was that natural curiosity (intrigue) appears to be aroused in (potential) followers of virtual influencers by creative and engaging content that is story-driven (Choudhry et al., 2022). However, the results show no combined effect between reveal type and storytelling. In connection to previous paragraphs, an explanation for this result is that the stimuli design and storytelling need to be more creative and engaging.

Most studies conducted regarding influencers are studies about human influencers, and this research adds value to that it adds to the few studies that have been done on virtual influencers. To the best of the researcher's knowledge, research has yet to be done regarding the effect of this new type of influencer on people's attitudes. With the rapid development of Artificial Intelligence and the surprising results from this research concerning Artificial Intelligence as a potential driver of virtual influencers, this research adds a valuable contribution to the existing literature.

6.2 Limitations & Future research

While this study's results provide insights into how storytelling and reveal type affect audiences' perceptions of virtual influencers, several limitations should be considered. Firstly, the study did not consider the individual differences in the participants' attitudes towards virtual influencers. Some participants may have had prior experience with virtual influencers, while

others may not have had any experience. These individual differences may have influenced their responses to the virtual influencers in the study.

Secondly, the study did not investigate the long-term effects of reveal and storytelling on participants' attitudes towards virtual influencers. The study only measured the participants' immediate responses, which may not indicate their long-term attitudes.

Thirdly, the study only focused on virtual influencers and did not include human influencers, which may affect consumer responses differently. However, the no reveal condition has been written about a top model, which may mislead the respondent as it could make people think the influencer is a real human being.

Furthermore, the study only examined the effects of two features, reveal type and storytelling, and did not consider other factors such as the type of product the virtual influencer needs to promote, the target audience, or the influencer's level of popularity.

Another limitation of this study was the possible observed halo effect in the last statements, resulting in the participants needing to take the time to read the manipulations correctly and the need to be involved. When this effect occurs, participants may be biased in their judgement by transferring their feelings about one feature or product of something to other features or products (Nicolau et al., 2020). In addition, the length of the survey could also contribute to the halo effect.

Additionally, the survey was aimed at Instagram users above 18 years old living in Europe. Since the survey was distributed through convenience sampling, many participants were from the Netherlands and in the same age range. This impacts external validity and may not represent the general population. The participants were recruited through snowballing in a specific age range and may have been more familiar with virtual influencers than the general population. Therefore, the generalization of the findings to the general population may be limited. Future studies could prevent this limitation by using different sampling to reach a broader public.

Moreover, this study used stimuli of a virtual influencer based on the opinions of six participants in the pre-test. Participants were exposed to the virtual influencer for the first time. To identify the impact of virtual influencers, further research could use well-known, existing virtual influencers, so participants exposed to the influencer may not see the influencer for the first time.

In conclusion, this study provides valuable insights into the impact of reveal type and storytelling on people's perceptions of virtual influencers. However, the limitations must be considered. The individual differences in participants' attitudes towards virtual influencers, the lack of investigation into long-term effects, and the focus on only two variables should be addressed in future studies to understand better how virtual influencers affect consumer behaviour. Additionally, the observed halo effect, the limited sample, and the use of a virtual influencer based on the opinions of only six participants may limit the generalizability of the findings. Therefore, it is recommended that future studies use existing virtual influencers and explore different purposes of using a virtual influencer to determine their influence. The study also shows that a "no reveal" approach may generate intrigue and engagement; however, a reveal may be necessary in certain circumstances to build trust. By considering these factors, future studies can provide a more comprehensive understanding of virtual influencers' impact on people's behaviour.

Although the results of this research may only meet some expectations, the results contribute to the growing knowledge of virtual influencer marketing and provide a foundation for future research. The most important recommendations for further research would be to examine the effects of other factors, such as the type of product the virtual influencer needs to promote, the target audience, or the influencer's level of popularity. In addition, regarding storytelling, it is recommended to study what requirements are needed to develop a robust creative approach that reaches and impacts a broad target audience emotionally and personally.

Also important is to see if a reveal of being virtual is the best option for using a virtual influencer. This study's importance of stimulus and narrative design precision in conducting research was evident. Human behaviour and attitudes are frequently studied, and many theories already exist.

This study aimed at the effects of different reveal types and storytelling. Despite meeting only some expectations in this research, the research aim could be very interesting for marketers and brands using influencer marketing. Information obtained from the research could help a marketeer or brand make choices regarding using a virtual influencer.

7. Conclusion

This research aimed to investigate the effect of a reveal of different types of virtual influencers and the effect of storytelling on audiences' attitudes when a virtual influencer reveals to be virtual. Limited studies could be found on virtual influencers and their effect on the audiences' (followers) attitudes; there is a notable gap. This study provides new insights into the field of influencer marketing by addressing the notable gap in research on virtual influencers and their impact on audiences' perceptions of trust, level of intrigue, level of eeriness and engagement towards them.

The accompanying research questions focused on the impact of identity reveal and storytelling on perceptions towards virtual influencers on Instagram. The research questions were: *"To what extent does identity reveal about being a human-driven or Artificial Intelligence-driven virtual influencer affect the audiences' perceptions towards the virtual influencer on Instagram"* and *"To what extent does storytelling affect audiences' perceptions towards a reveal (no reveal, human-driven or Artificial Intelligence-driven) of a virtual influencer on Instagram?*. The findings reveal an impact of reveal type on trust and eeriness and a possible effect on engagement. However, no effect of storytelling or interaction between reveal and storytelling was found.

To answer the research questions, it can be concluded that reveal type (human-driven virtual influencer, Artificial Intelligence-driven virtual influencer, or no reveal of being virtual) affects people's perceptions of trust, intrigue, eeriness, and engagement. Storytelling does not seem to influence a reveal of being a virtual influencer.

Finally, marketers and brands can use the results to improve their influencer marketing strategies by understanding the impact of reveal type on trust and eeriness and the potential benefits of using Artificial Intelligence-driven virtual influencers.

References

Argyris, Y. A., Muqaddam, A., & Miller, S. (2021). The effects of the visual presentation of an Influencer's Extroversion on perceived credibility and purchase intentions—moderated by personality matching with the audience. *Journal of Retailing and Consumer Services*, *59*, 102347. https://doi.org/10.1016/j.jretconser.2020.102347

Arsenyan, J., & Mirowska, A. (2021). Almost human? A comparative case study on the social media presence of virtual influencers. *International Journal of Human-Computer Studies*, *155*, 102694. https://doi.org/10.1016/j.ijhcs.2021.102694

Ballantine, P. W., & Martin, B. A. S. (2005). Forming parasocial relationships in online communities. *NA - Advances in Consumer Research*, *32*, 197–201.

Batista Da Silva Oliveira, A., & Chimenti, P. (2021). "Humanized robots": A proposition of categories to understand virtual influencers. *Australasian Journal of Information Systems*, *25*. https://doi.org/10.3127/ajis.v25i0.3223

Bianchi, M. (2014). The magic of storytelling: How curiosity and aesthetic preferences work. *Economics*, *8*(1). https://doi.org/10.5018/economics-ejournal.ja.2014-44

Berne-Manero, C., & Marzo-Navarro, M. (2020). Exploring how influencer and relationship marketing serve corporate sustainability. *Sustainability*, *12*(11), 4392. https://doi.org/10.3390/su12114392

Brud Records. (n.d.). *Miquela* [Picture]. Https://Www.Instagram.Com/Lilmiquela/?Hl=en. Retrieved January 13, 2022, from https://www.virtualhumans.org/article/whats-the-difference-between-virtual-influencers-vtubers-artificial-intelligence-avatars

Block, E., & Lovegrove, R. (2021). Discordant storytelling, 'honest fakery', identity peddling: How uncanny CGI characters are jamming public relations and influencer practices. *Public Relations Inquiry*, *10*(3), 265–293. https://doi.org/10.1177/2046147x211026936

Bloomberg Quicktake. (2014, November 24). *Tesla's Elon Musk: We're 'summoning the demon' with Artificial Intelligence* [Video]. YouTube. https://www.youtube.com/watch?v=Tzb_CSRO-0g

Cambridge Dictionary. (2023). *intrigue definition: 1. to interest someone a lot, especially by being strange, unusual, or mysterious: 2. (the making. . .. Learn more.* https://dictionary.cambridge.org/dictionary/english/intrigue

Casaló, L. V., Flavián, C., & Ibáñez-Sánchez, S. (2021). Be creative, my friend! Engaging users on Instagram by promoting positive emotions. *Journal of Business Research*, *130*, 416–425. https://doi.org/10.1016/j.jbusres.2020.02.014

Chung, S., & Cho, H. (2017). Fostering parasocial relationships with celebrities on social media: Implications for celebrity endorsement. Psychology & Marketing, 34(4), 481–495. https://doi.org/10.1002/mar.21001

Choudhry, A., Han, J., Xu, X., & Huang, Y. (2022). "I felt a little crazy following a 'doll.'" *Proceedings of the ACM on Human-Computer Interaction*, *6*(GROUP), 1–28. https://doi.org/10.1145/3492862

Crockett, K., Garratt, M., Latham, A., Colyer, E., & Goltz, S. (2020). Risk and trust perceptions of the public of artifical intelligence applications. *2020 International Joint Conference on Neural Networks (IJCNN)*. https://doi.org/10.1109/ijcnn48605.2020.9207654

Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2019). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, *48*(1), 24–42. https://doi.org/10.1007/s11747-019-00696-0

Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, *68*, 1–7. https://doi.org/10.1016/j.chb.2016.11.009

Faddoul, G., & Chatterjee, S. (2020). A quantitative measurement model for persuasive technologies using storytelling via a virtual narrator. *International Journal of Human–Computer Interaction*, *36*(17), 1585–1604. https://doi.org/10.1080/10447318.2020.1768670

Jarrar, Y., Awobamise, A. O., & Aderibigbe, A. A. (2020). Effectiveness of influencer marketing vs social media sponsored advertising. *Utopia y Praxis Latinoamericana*, *25*(Extra 12), 40–54. https://doi.org/10.5281/zenodo.4280084

Haefner, N., Wincent, J., Parida, V., & Gassmann, O. (2021). Artificial intelligence and innovation management: A review, framework, and research agenda☆. *Technological Forecasting and Social Change*, *162*, 120392. https://doi.org/10.1016/j.techfore.2020.120392

Hinds, P. J., Roberts, T. L., & Jones, H. (2004). Whose job is it anyway? A study of Human-Robot Interaction in a collaborative task. *Human-Computer Interaction*, *19*(1), 151–181.

Ho, C. C., & MacDorman, K. F. (2016). Measuring the uncanny valley effect. *International Journal of Social Robotics*, *9*(1), 129–139. https://doi.org/10.1007/s12369-016-0380-9

Holbrook, M. B., & O'Shaughnessy, J. (1984). The role of emotion in advertising. *Psychology & Marketing*, *1*(2), 45–64. https://doi.org/10.1002/mar.4220010206

Holder, C., Khurana, V., & Watts, M. (2021, August 3). *Artificial intelligence: Public perception, attitude and trust*. Bristows. Retrieved May 25, 2022, from https://www.bristows.com/viewpoint/articles/artificial-intelligence-public-perception-attitude-and-trust/

Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing*, *28*(2), 149–165. https://doi.org/10.1016/j.intmar.2013.12.002

Hollis, N. (2009). Pervasive, yet misunderstood: Emotion in advertising. Millward Brown. https://www.millwardbrown.ru/library/Hollis_EmotionInAdvertising.sflb.pdf

Horton, D., & Richard Wohl, R. (1956). Mass Communication and Para-Social Interaction. *Psychiatry*, *19*(3), 215–229. https://doi.org/10.1080/00332747.1956.11023049

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). Communication and persuasion. *Yale University Press.*

Kashdan, T. B., Disabato, D. J., Goodman, F. R., & McKnight, P. E. (2020). The Five-Dimensional curiosity scale revised (5DCR): Briefer subscales while separating overt and covert social curiosity. *Personality and Individual Differences*, *157*, 109836. https://doi.org/10.1016/j.paid.2020.109836

Khan, R. F., & Sutcliffe, A. (2013). Attractive agents are more persuasive. *International Journal of Human-Computer Interaction*, *30*(2), 142–150. https://doi.org/10.1080/10447318.2013.839904

Klimmt, C., Hartmann, T., & Schramm, H. (2006). Parasociale interactions and relationships. In J. Bryant & P. Vorderer (Eds.), Psychology of entertainment (pp. 291-313). Routledge. https://doi.org/10.4324/9780203873694

Kolasinska, A., Lauriola, I., & Quadrio, G. (2019). Do people believe in Artificial Intelligence?: A cross-topic multicultural study. *Proceedings of the 5th EAI International Conference on Smart Objects and Technologies for Social Good*. Published. https://doi.org/10.1145/3342428.3342667

Laroche, M., Habibi, M. R., Richard, M. O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior*, *28*(5), 1755–1767. https://doi.org/10.1016/j.chb.2012.04.016

Miao, F., Kozlenkova, I. V., Wang, H., Xie, T., & Palmatier, R. W. (2021). An emerging theory of avatar marketing. *Journal of Marketing*, 002224292199664. https://doi.org/10.1177/0022242921996646

Mijwil, M.M., (2015). History of Artificial Intelligence. https://doi.org/10.13140/RG.2.2.16418.15046

Mori, M., MacDorman, K., & Kageki, N. (2012). The uncanny valley [from the field]. *IEEE Robotics & Automation Magazine*, *19*(2), 98–100. https://doi.org/10.1109/mra.2012.2192811

Moustakas, E., Lamba, N., Mahmoud, D., & Ranganathan, C. (2020). Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers. *2020 International Conference on Cyber Security and Protection of Digital Services (Cyber Security)*. https://doi.org/10.1109/cybersecurity49315.2020.9138861

Nicolau, J. L., Mellinas, J. P., & Martín-Fuentes, E. (2020). The halo effect: A longitudinal approach. *Annals of Tourism Research*, *83*(November 2019). https://doi.org/10.1016/j.annals.2020.102938

Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, *19*(3), 39–52. https://doi.org/10.1080/00913367.1990.10673191

Park, G., Nan, D., Park, E., Kim, K. J., Han, J., & Del Pobil, A. P. (2021). Computers as social actors? Examining how users perceive and interact with virtual influencers on social media. *Conference: 15th International Conference on Ubiquitous Information Management and Communication. At: Seoul, Korea (South)*. Published. https://doi.org/10.1109/imcom51814.2021.9377397

Pham, M. N., Geuens, M., & De Pelsmacker, P. (2013). The influence of ad-evoked feelings on brand evaluations: Empirical generalizations from consumer responses to more than 1000 TV commercials. *International Journal of Research in Marketing*, *30*(4), 383–394. https://doi.org/10.1016/j.ijresmar.2013.04.004

Purington, A., Taft, J. G., Sannon, S., Bazarova, N. N., & Taylor, S. H. (2017). "Alexa is my new BFF." *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. Published. https://doi.org/10.1145/3027063.3053246

Saleh, Z. (2019). Artificial Intelligence definition, ethics and standards. The British University in Egypt. Retrieved December 4, 2021, from https://www.researchgate.net/publication/332548325_Artificial_Intelligence_Definition_Ethics_and_Standards

Sas, C., & Zhang, C. (2010). Investigating emotions in creative design. *Network Conference on Creativity and Innovation in Design*, 138–149. https://doi.org/10.5555/1854969.1854990

Sudha, M., & Sheena, K. (2017). Impact of influencers in consumer decision process: The fashion industry. *SCMS Journal of Indian Management*, *14*(3), 14–30.

Statista. (2021a, June 21). *Leading platforms for influencer marketing worldwide 2020*. Retrieved December 7, 2021, from https://www.statista.com/statistics/1241723/platforms-influencer-marketing/

Statista. (2021, October 14). *Global influencer marketing value 2016–2021*. Retrieved December 6, 2021, from https://www.statista.com/statistics/1092819/global-influencer-market-size/

TEDx Talks. (2017, December 15). *The real reason to be afraid of Artificial Intelligence | Peter Haas | TEDxDirigo* [Video]. YouTube. https://www.youtube.com/watch?v=TRzBk_KuIaM

Tietjen, A. (2019, February 5). *The diigitals BAFTA's*. Thediigitals. Retrieved January 6, 2022, from https://www.thediigitals.com/bafta

Thoumrungroje, A. (2014). The influence of social media intensity and EWOM on conspicuous consumption. *Procedia - Social and Behavioral Sciences*, *148*, 7–15. https://doi.org/10.1016/j.sbspro.2014.07.009

Torres, P., Augusto, M., & Matos, M. (2019). Antecedents and outcomes of digital influencer endorsement: An exploratory study. *Psychology & Marketing*, *36*(12), 1267–1276. https://doi.org/10.1002/mar.21274

Travers, C. (2018, August 30). *5 Notable Virtual Influencer + Brand Partnerships*. Virtual Humans. Retrieved December 6, 2021, from https://www.virtualhumans.org/article/5-notable-virtual-influencer-brand-partnerships

Travers, C. (2020, May 21). *Welcoming 17 newfound virtual influencers to VirtualHumans.org*. Virtual Humans. Retrieved June 7, 2022, from https://www.virtualhumans.org/article/welcoming-17-newfound-virtual-influencers-to-virtualhumans-org

Tzafestas, S. (2018). Synergy of IoT and AI in modern society: The robotics and automation case. *Robotics & Automation Engineering Journal*, *3*(5). https://doi.org/10.19080/raej.2018.03.555621

Wielki, J. (2020). Analysis of the role of digital influencers and their impact on the functioning of the contemporary On-Line promotional system and its sustainable development. *Sustainability*, *12*(17), 7138. https://doi.org/10.3390/su12177138

Wills, K. (2019, March 7). *Meet Lil Miquela: The AI influencer taking over Instagram*. Evening Standard. Retrieved December 16, 2021, from

https://www.standard.co.uk/lifestyle/esmagazine/lil-miquela-ai-influencer-instagram-a4084566.html

Woodside, A. G., Sood, S., & Miller, K. E. (2008). When consumers and brands talk: Storytelling theory and research in psychology and marketing. *Psychology and Marketing*, *25*(2), 97–145. https://doi.org/10.1002/mar.20203

Appendices

Appendix A: Mock-ups pre-test

Appendix B: Ethics Committee approval

Appendix C: Pre-test focus group summary

Appendix D: Main study Stimuli Dutch

Appendix E: Measurement statements Main survey

Appendix F: Main survey Qualtrics English

Appendix G: Main survey Qualtrics Dutch

Appendix A: Mock-ups pre-test

Mock-ups of the virtual influencer:

Mock-up 1.

Mock-up 2.

Mock-up 3.

Mock-up 4.

Mock-up 5.

Mock-ups of the (no) reveal texts English:

Mock-up ‘no reveal’.

Mock-up ‘human-driven’.

Mock-up ‘Artificial Intelligence-driven’.

APPROVED BMS EC RESEARCH PROJECT REQUEST

Dear researcher,

This is a notification from the BMS Ethics Committee concerning the web application form for the ethical review of research projects.

Requestnr. :	221053
Title :	Being influenced
Date of application :	2022-07-09
Researcher :	Hulleman, I.M.
Supervisor :	Galetzka, M.
Commission :	Long, L.A.N.
Usage of SONA :	N

Your research has been approved by the Ethics Committee.

The BMS ethical committee / Domain Humanities & Social Sciences has assessed the ethical aspects of your research project. On the basis of the information you provided, the committee does not have any ethical concerns regarding this research project.

It is your responsibility to ensure that the research is carried out in line with the information provided in the application you submitted for ethical review. If you make changes to the proposal that affect the approach to research on humans, you must resubmit the changed project or grant agreement to the ethical committee with these changes highlighted.

Moreover, novel ethical issues may emerge while carrying out your research. It is important that you re-consider and discuss the ethical aspects and implications of your research regularly, and that you proceed as a responsible scientist.

Finally, your research is subject to regulations such as the EU General Data Protection Regulation (GDPR), the Code of Conduct for the use of personal data in Scientific Research by VSNU (the Association of Universities in the Netherlands), further codes of conduct that are applicable in your field, and the obligation to report a security incident (data breach or otherwise) at the UT.

-

Appendix C: Pre-test focus group summary

On the 24th of May, a pre-test was conducted as a focus group.

The focus group was selected by someone not involved in the research, and the participants were strangers to the researcher to avoid bias. Below is a summary of the pre-test, and the used mock-ups can be found in Appendix A. Pre-test focus group summary:

Opening: A word of welcome, an introduction of the researcher and the study, and a brief explanation of the study's objectives were given.

Additionally, it was explained that the focus group was held to pre-test the mock-ups and storytelling for the final measure instrument in Qualtrics (survey). It was also clearly explained that the best mock-up for the virtual influencer in the final measure instrument in Qualtrics had to emerge through the focus group. Furthermore, it was made clear that the text mock-ups and storytelling were tested to select or adjust (if necessary) mock-ups for the final measure instrument in Qualtrics. Also explained was that their participation was completely voluntary, and that consent was given by participating. It was mentioned that they could withdraw at any time, without reason. Moreover, it was told to the participants that the focus group would take +/- 60 minutes.

Introduction influencers: To see if everyone was familiar with the concept '*influencer*', the group was asked what an influencer is and what an influencer does. The group knew the answer, and together they complemented each other to form a complete definition. Namely, an influencer shares his / her life through multi-media and social media. Additionally, they share products they are allowed to test for a review or are paid to promote a product or brand.

Testing mock-ups influencers: The focus group started with the question 'what comes to mind when seeing these influencers'? Whereby the mock-ups of the influencers were presented at the same time. Participants were asked about their first impression, what they saw and if they could grade the influencers for attractiveness and credibility on a scale from 1 (not attractive at all) to 7 (very attractive). Al participants immediately noticed that the pictured influencers were models and mock-up 3 (see Appendix A) scored lowest on attractiveness. The group thought she was too tough, too alternative, and expressionless. The highest score for attractiveness was for mock-up 5 (see Appendix A). Surprisingly, this mock-up scored lower on credibility. The group thought she was the most attractive and thus the least trustworthy when she talked about a product or brand and promoted that because they thought she could take advantage of the fact that she was so attractive and beautiful. The second place for attractiveness went to the influencer depicted on mock-up 4 (see Appendix A), with the highest score for credibility. The group agreed that she looked most like the girl next door whom the whole school was in love with when she was younger. They saw her as the most 'real', and therefore they would believe her.

Also rated on a scale from 1 to 7 was the feeling the influencers depicted gave the participants (with 1 very uncomfortable to 7 very comfortable) and trustworthiness (with 1 not trustworthy at all to 7 very trustworthy). Mock-up 2 scored the lowest on comfortable feelings, followed by mock-up 3 (see Appendix A). The reasons given for this were the look (too tough, too alternative, overly made) and the depicted influencers' appearance (expressionless, emotionless). In contrast to these mock-ups, the participants rated mock-ups 4 and 5 (see Appendix A) very positive regarding the feeling they got from these depicted influencers. Reasons for this grading were the influencers' looks (e.g., beautiful, attractive, good-looking, the girl next door who does not know she is pretty, and pleasant to look at). Mock-up 4 also scored high on trustworthiness because of her 'girl next door look', unlike mock-up 5, which

was among the lowest-rated mock-ups. The grounds for this were that the influencer is too pretty and possibly would abuse the fact that she is so beautiful.

Testing text mock-ups '(no) reveal': To test the text mock-ups, they were shown individually the influencer mock-up that came forward as the best mock-up for the final survey (mock-up 4, see Appendix A). Participants were asked about their first impression and if there was anything that struck them. They were also asked if they could grade the stories for credibility, if they would believe the stories, on a scale from 1 (not credible at all) to 7 (very credible).

First, the 'no reveal' mock-up (see Appendix A) was shown with the influencer of mock-up 5. At first, they could not name anything and therefore, they were asked to read the text again. It was observed that reading the mock-up took some time. The group noticed that the influencer might be too young to have a daughter. Next, the group wondered how she managed all the travelling for her modelling career with being a mother. Therefore, her credibility was rated a five. The group explained that they would give the mock-up text a seven when some minor changes were made. Think of; the influencer not travelling for her work, an explanation about the child's care (e.g., her mother looked after her child when she travelled for work) or when she had no child. On a scale from 1 (very uncomfortable) to 7 (very comfortable) regarding the feeling that the story in the text mock-up gave the participants, the mock-up scored a six. The participants explained that this would also be a seven when the previous notes regarding credibility are considered. Also, when these credibility notes were considered, a seven instead of a six would be given for trust (on a scale from 1, no trust at all, to 7 very trustworthy).

Subsequently, the ‘human-driven reveal’ mock-up (see Appendix A) was shown with the influencer of mock-up 5. Participants were again asked about their first impression and if there was anything that struck them. Also, they were asked for this mock-up if they could grade the story for credibility and if they would believe the text on a scale from 1 (not credible at all) to

7 (very credible). The group hesitated while looking at the shown mock-ups. The reading / looking lasted considerably longer than the 'no reveal' mock-up. They asked questions about the 3D rendered part. They could not believe that the influencer was not an actual human and that computers were capable of these real human-like designs.

The credibility rate was a six because they still found it an incredible story. However, if it was real, then it was a believable story. The mock-up scored a five on a scale from 1 (very uncomfortable) to 7 (very comfortable) regarding the feeling that the 'human-driven reveal' gave the participants. The participants explained that this was because it made them doubt their eyes. For trustworthiness, the text mock-up with the influencer mock-up ('human-driven' reveal and mock-up 4, see Appendix A) scored an unexpected 6. The group explained that the influencer shown might not be real, but the design team determines her voice and everything she does. Whether those people use their faces or that of an animation makes no difference.

Lastly, the 'Artificial Intelligence-driven reveal' mock-up (see Appendix A) was shown with the influencer of mock-up 5. The same questions were asked for the 'no reveal' and 'human-driven reveal' mock-ups. The group was silent after reading the text and looked at each other before a discussion started. They were immediately struck by the 'Artificial Intelligence-driven' reveal and wondered when this would happen in the future. The story was credible to them, scoring a 7. They believed this would all be possible, mentioning the current rapid technological developments of the internet and devices. However, for mock-up 5, they still could not believe their eyes and wondered if this was not a picture of a real woman with a filter to make it look perfect. The group was unanimous about the uncomfortable feeling they got at the thought of Artificial Intelligence controlling such a real-looking computer animation. On a scale of one to seven, a two was given for the feeling this text mock-up with the influencer mock-up 5 gave the participants (from 1, uncomfortable to 7, very comfortable). Also, trustworthiness was scored low with a two. Not a one, never say never was the argument for this grading.

Additional questions: After the mock-up tests, some additional questions were asked to see if the participants understood the difference between the texts, whether attitudes and opinions changed regarding the mock-ups of the influencers, and if there were more suggestions for improving the mock-ups.

It was interesting to note that the participants had nothing to say about the first story but were mainly focused on the 'human-driven' reveal and the 'Artificial Intelligence'-driven reveal, even though the influencer image was the same for all three texts. The group could distinguish the differences; they called the first 'no reveal' text with mock-up 5 'real'. In their view, the second 'human-driven' reveal text was a computer animation where people's opinions were used, and they also determined what was said/done. In the last 'Artificial Intelligence-driven' reveal text, Artificial Intelligence had the upper hand, which they found less reliable and perhaps also exciting or scary.

When the mock-ups of the influencers were shown again, the opinions regarding attractiveness stayed the same. The way the group felt after discovering that the influencers were virtual changed how they felt about them, especially when they would be Artificial Intelligence-driven. From 1, uncomfortable to 7, very comfortable the influencers on the mock-up scored a 5. They explained that this was not because of the looks but because of "knowing" that they were not real but looked very real. The idea that creating these animations that look so real is possible made them feel more uncomfortable than when not knowing.

Furthermore, credibility and trustworthiness towards the influencer when she talks about something she used and promoted scored significantly lower with a 3 for both (on a scale from 1, not credible at all, to 7, very credible), especially for the Artificial Intelligence-driven virtual influencers. They explained that it was not a one because they would not know how it would be when it is happening in real life. Meaning; that when they came across influencers like this on their Instagram, talking about their lives and promoting products or brands. Two of them

mentioned that they also said never to use a mobile phone, but they used them now like everyone.

Moreover, the participants were asked if they would change the text mock-ups. For the 'no reveal' text, they recommended a minor change regarding the child the model has, as mentioned earlier in the Alinea' testing text mock-ups '(no) reveal'". Suggestions were made:

1. The influencer is not travelling for her work but working for one agency/brand nearby.
2. An explanation about the child's care (e.g., her mother or the father looked after the child when the influencer travels for her modelling job).
3. Skip the part of the child; let someone else be her inspiration.

According to the participants, no changes were needed for the 'human-driven' reveal text and the 'Artificial Intelligence-driven' reveal text. The way the influencers were presented was clear to the group, and no recommendations for changes or additions came into their minds. Only for the 'no reveal' text, they suddenly realized that this was also a virtual influencer and wondered whether it would remain hidden or be revealed later.

The last question asked was what the group thought could be changed or added to the influencer. The one thing they would change was the name, 'Bermudaisbae' did not contribute to trustworthiness and credibility, as opposed to 'Bella Hueman'. According to the focus group, that was the best name for the influencer.

Closing end: Participants of the focus group were thanked for their time and effort, and again the purpose of this study was explained. Also mentioned was that in time of questions, they could always reach out to the researcher, an email address was provided.

Appendix D: Main study stimuli Dutch

Main Study Human-Driven Reveal and Artificial Intelligence-Driven Reveal Stimuli Dutch

Main Study Human-Driven Reveal Stimuli Dutch version.

Artificial Intelligence-Driven Reveal Stimuli Dutch version.

Main Study No Reveal Stimuli Dutch version.

Appendix E: Measurement statements Main survey

Table A-1

Variable Measurement Statements Overview

Dependent Variable	Statements / items
Trust	- I believe Bella Hueman is genuinely interested in followers' welfare. - I believe Bella Hueman puts followers' interests first. - If problems arise, I can expect Bella Hueman to be honest to her followers. - I believe that Bella Hueman only promotes things she sincerely tested and likes. - I believe that the communication of Bella Hueman is honest. - I can trust Bella Hueman. - I can rely on the opinion of Bella Hueman.
Intrigue	- I would explore the Instagram account of Bella Hueman for joy or a positive experience. - I want to know more about Bella Hueman. - Bella Hueman brings me in distress. - I would like to look up Bella Hueman on Instagram to learn more about her. - Bella Hueman fascinates me, I would follow her on Instagram.
Engagement	
Cognitive	- Interacting with Bella Hueman on Instagram would make me think about her. - My interest to learn more about Bella Hueman would be stimulated when interacting with her. - Interaction with Bella Hueman would make me think about her a lot.
Affective	- Interacting with Bella Hueman on Instagram would make me feel very positive. - Interacting with Bella Hueman on Instagram would make me feel very happy. - Interacting with Bella Hueman on Instagram would make me feel good. - Following Bella Hueman on Instagram would make me feel proud.

| Dependent Variable | Statements / items |

Behavioural	- An Instagram post of Bella Hueman encourages me to respond. - A nice Instagram post of Bella Hueman would trigger me to like the post. - I intend to buy products promoted by Bella Hueman. - Promoted products of interest by Bella Hueman directly triggers the urge to seek further information about the product.
Eeriness	- To what extent do you perceive the presented visuals you just saw as realistic? - Dull – Exciting - Predictable – Unpredictable - Plain – Weird - Ordinary – Supernatural - Do the presented visuals and texts give you a positive or negative feeling? - Do the presented visuals and texts make you feel comfortable?

Appendix F: Main survey Qualtrics English

English - United Kingdom

You are being invited to participate in a research study about 'Modern marketing influences'. This study is being conducted by Isabel Hulleman from the Faculty of Behavioural, Management and Social Sciences at the University of Twente.

This study aims to research opinions regarding influencer marketing using a fictitious online story which will take approximately 10 minutes to complete. The data will be used for a master's thesis in Communication Science and possible future research.

Participation in this study is entirely voluntary, and you can withdraw at any time.

The researcher believes there are no known risks associated with this research study; however, as with any online-related activity, the risk of a breach is always possible. Answers to this survey will remain confidential to the best of the researcher's ability. Risks will be minimized by storing the data offline and anonymizing all responses. Study contact details for further information: i.m.hulleman@student.utwente.com.

If you have any questions about the rights as a participant in this research and wish to obtain more information or discuss any concerns about this study with someone other than the researcher, please contact the Secretary of the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by: ethicscommittee-bms@utwente.nl.

I have read the information stated above, and I agree to participate in this study:

- ○ Yes
- ○ No

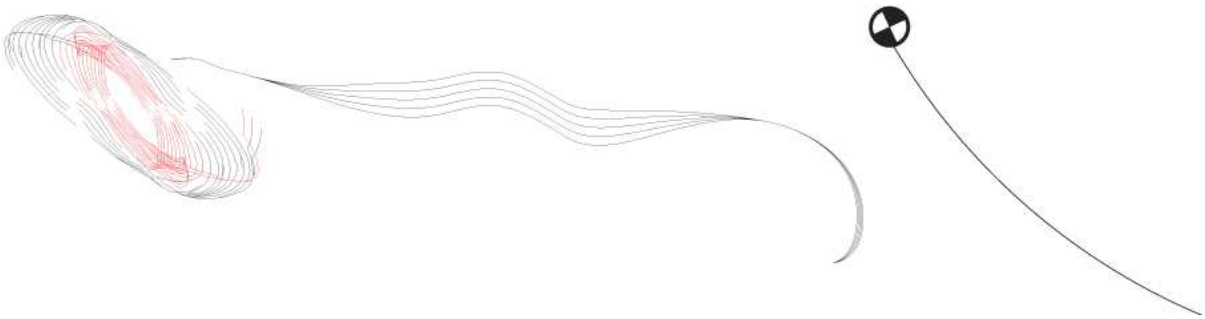
→

UNIVERSITY OF TWENTE.

English - United Kingdom

Welcome to this survey. First, some general questions will be asked. After that, you will be presented with a fictional scenario and visualizations. Please take a good look at the pictures and read the text carefully. Share your opinion by answering the questions.

→



English - United Kingdom

Country of residence

- Netherlands
- Germany
- Spain
- France
- Italy
- Greece
- Belgium
- United Kingdom
- Bulgaria
- Romania
- Cyprus
- Denmark
- Estonia
- Finland
- Hungary
- Ireland
- Latvia
- Lithuania
- Luxembourg
- Malta
- Austria
- Poland
- Portugal
- Slovakia
- Slovenia
- Czech Republic
- Sweden
- Other, outside of Europe

What is your gender?

- ○ Male
- ○ Female
- ○ Non-binary / third Gender
- ○ Prefer not to say

What is your age? (digits only)

Do you have an Instagram account?

- ○ Yes
- ○ No

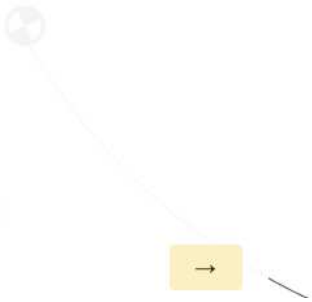
Are you familiar with influencers?

- ○ Yes
- ○ No

A social media influencer is someone who has established credibility in a specific industry or field, has access to a huge audience and can persuade others to act based on their recommendations.

How often do you see influencers online?

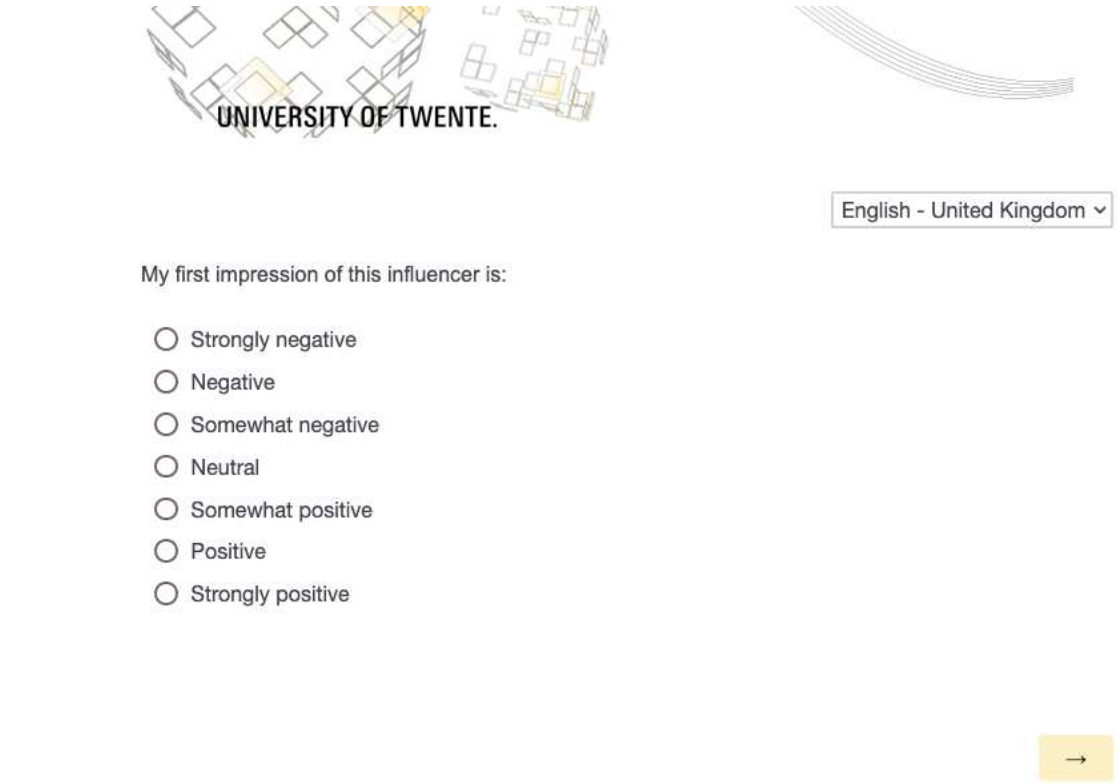
- ○ Never
- ○ Very rarely
- ○ Rarely
- ○ Occasionally
- ○ Frequently
- ○ Very frequently

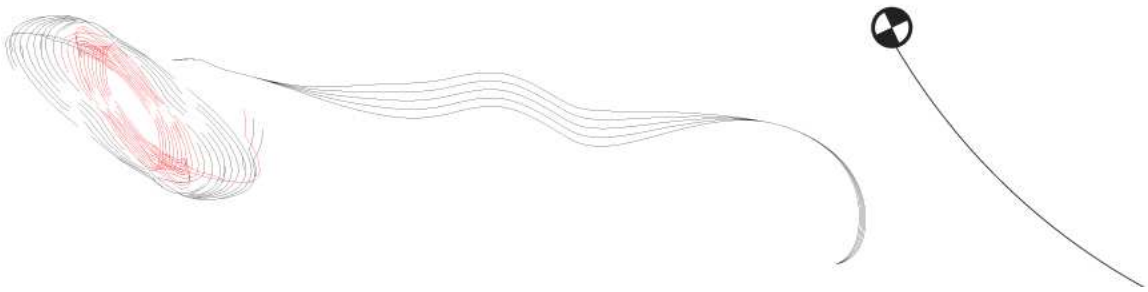


→

English (United Kingdom)

Meet Bella Hueman, a girl from LA, an ambitious model, and an influencer with a mission to contribute to a better world.



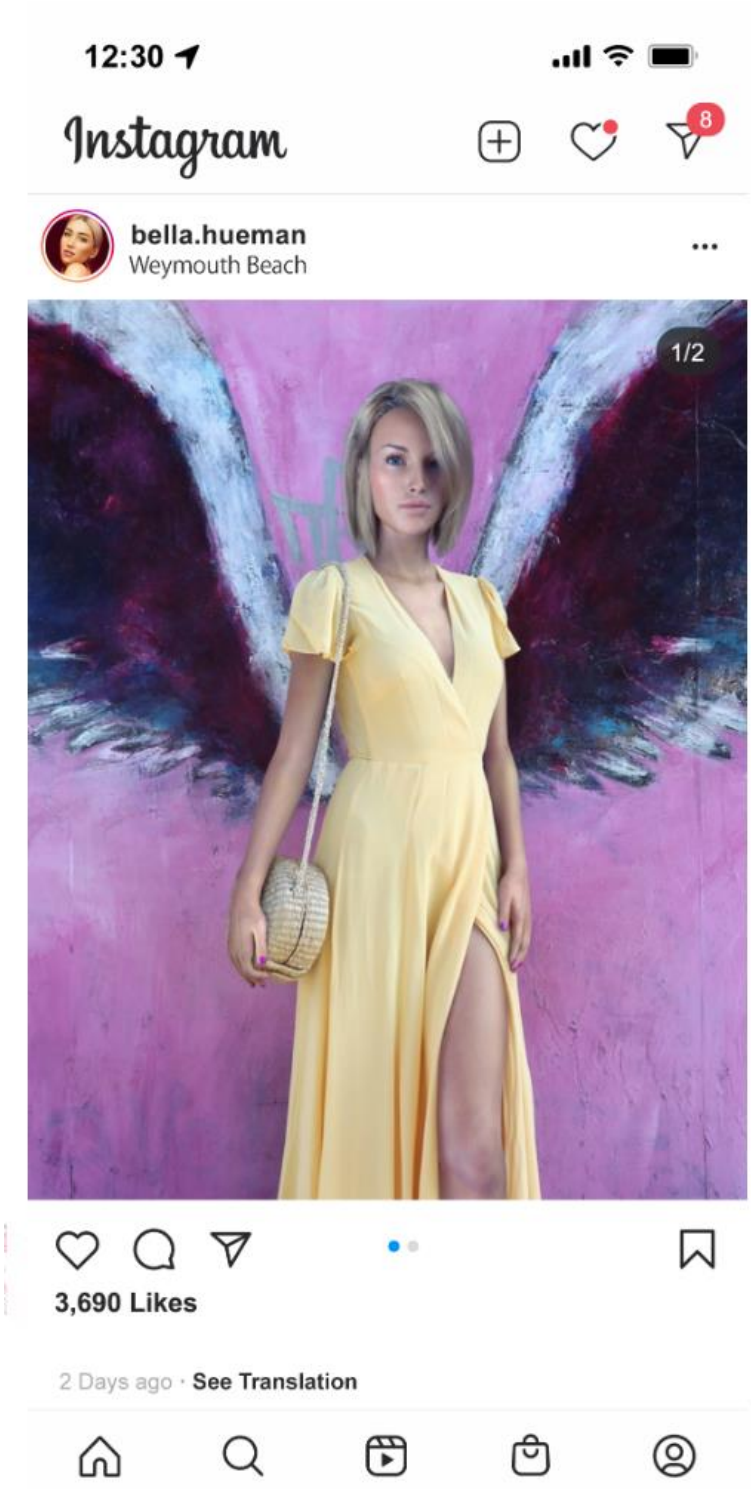


The following shows two examples of conditions that participants could see. All the stimuli for the main survey can be seen in Figure 4, Figure 5, Figure 6, and Figure 7. The Dutch version can be found in Appendix D.

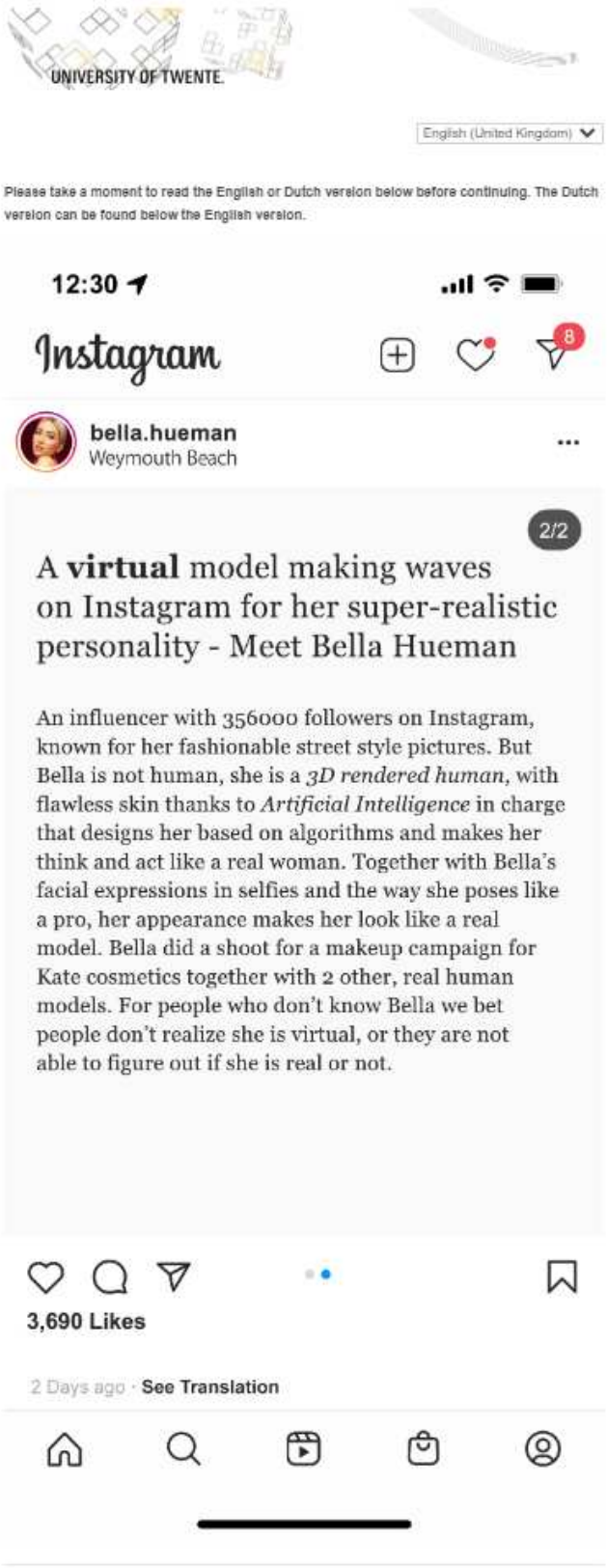
English (United Kingdom)

In the following, a post of Bella her Instagram account is shown.

Please take a moment to read the following/take a look at the post before continuing.



Note. Without storytelling.



Note. This is one of the 6 conditions. Without storytelling, Artificial Intelligence-driven reveal.

English (United Kingdom)

Please take a moment to read/take a look at the following information before continuing.

In an interview, Bella said: "Finally, I can live from what I love most: modelling. I used to be very fat and bullied, which made me sad. Children can be heartless. Because I had no friends, I lost myself in reading; books and many magazines. All those beautiful ladies I saw in magazines, I wanted to feel that way too! I started to immerse myself in a healthy lifestyle and lost a lot of weight. I feel beautiful and, more importantly, healthy! I want to pass this message on to all young people struggling with themselves: you are beautiful the way you are, but you must take good care of yourself to feel good. I share recipes and new products for a healthy lifestyle and a better world. I will soon add a picture of me in my younger years, so you can see the transformation. Follow your dreams; everything is possible!"

Note. With storytelling.

English (United Kingdom)

Please take a moment to read the English or Dutch version below before continuing. The Dutch version can be found below the English version.

Note. This is one of the 6 conditions. No reveal.

English (United Kingdom)

You just saw a fictitious Instagram post of the influencer Bella Hueman. Please answer the following statements about Bella according to your own opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I believe Bella Hueman is genuinely interested in followers' welfare.	○	○	○	○	○	○	○
I believe Bella Hueman puts followers' interests first.	○	○	○	○	○	○	○
If problems arise, I can expect Bella Hueman to be honest to her followers.	○	○	○	○	○	○	○
I believe that Bella Hueman only promotes things she sincerely tested and likes.	○	○	○	○	○	○	○
I believe that the communication of Bella Hueman is honest.	○	○	○	○	○	○	○
I can trust Bella Hueman.	○	○	○	○	○	○	○
I can rely on the opinion of Bella Hueman.	○	○	○	○	○	○	○

→

English (United Kingdom)

To what extent do you agree with the following statements regarding the presented posts you just saw?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I would explore the Instagram account of Bella Hueman for joy or a positive experience.	○	○	○	○	○	○	○
I want to know more about Bella Hueman.	○	○	○	○	○	○	○
Bella Hueman brings me in distress.	○	○	○	○	○	○	○
I would like to look up Bella Hueman on Instagram to learn more about her.	○	○	○	○	○	○	○
Bella Hueman fascinates me, I would follow her on Instagram.	○	○	○	○	○	○	○

→

English (United Kingdom)

Taking the Instagram post of Bella Hueman that was presented as an example, please respond to the statements below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Interacting with Bella Hueman on Instagram would make me think about her.	○	○	○	○	○	○	○
My interest to learn more about Bella Hueman would be stimulated when interacting with her.	○	○	○	○	○	○	○
Interaction with Bella Hueman would make me think about her a lot.	○	○	○	○	○	○	○

Taking the Instagram post of Bella Hueman that was presented as an example, please respond to the statements below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
An Instagram post of Bella Hueman encourages me to respond.	○	○	○	○	○	○	○
A nice Instagram post of Bella Hueman would trigger me to like the post.	○	○	○	○	○	○	○
I intend to buy products promoted by Bella Hueman.	○	○	○	○	○	○	○
Promoted products of interest by Bella Hueman directly triggers the urge to seek further information about the product.	○	○	○	○	○	○	○

English (United Kingdom)

To what extent do you perceive the presented visuals you just saw as realistic?

- ○ Strongly unrealistic
- ○ Unrealistic
- ○ Somewhat unrealistic
- ○ Neutral
- ○ Somewhat realistic
- ○ Realistic
- ○ Strongly realistic

After reading and looking at the text and visuals I find the influencer on a scale from 1 to 7:
(please slide **all 4** sliders)

1 2 3 4 5 6 7

Dull – Exciting

Predictable – Unpredictable

Plain – Weird

Ordinary – Supernatural

Do the presented visuals and texts give you a positive or negative feeling?

- ○ A strongly negative feeling
- ○ A negative feeling
- ○ Somewhat a negative feeling
- ○ Neutral
- ○ Somewhat a positive feeling
- ○ A positive feeling
- ○ A strongly positive feeling

Do the presented visuals and texts make you feel comfortable?

Please rate on a scale from 1 to 7, with 1 - very uncomfortable to 7 - very comfortable **by sliding the bar to the right.**

1 2 3 4 5 6 7

Feeling comfortable on a scale from 1 to 7.

End of Survey

Thank you for taking the time to complete this survey. The information you have provided is genuinely valued. Please remember that the study concerned a fictitious story.
Your answers will contribute to my master thesis.
This thesis will be completed with a research report. If you have any comments on the survey or the research project, do not hesitate to contact me at i.m.hulleman@student.utwente.com.

Kind regards,

Isabel Hulleman.

You can now leave this page.

Nederlands

U bent uitgenodigd om deel te nemen aan een onderzoek over 'Moderne marketing invloeden'. Dit onderzoek wordt uitgevoerd door Isabel Hulleman van de Faculteit Gedrags-, Management- en sociale wetenschappen aan de Universiteit Twente.

Het doel van dit onderzoek is om meningen over influencer marketing te onderzoeken aan de hand van een fictief online verhaal dat ongeveer 10 minuten zal duren om in te vullen. De gegevens zullen worden gebruikt voor een masterscriptie in Communicatiewetenschap en mogelijk toekomstig onderzoek.

Deelname aan dit onderzoek is geheel vrijwillig, en u kunt zich op elk moment terugtrekken.

De onderzoeker is van mening dat er geen bekende risico's verbonden zijn aan dit onderzoek; echter, zoals bij elke online-gerelateerde activiteit, is het risico van een inbreuk altijd mogelijk. Antwoorden op deze enquête zullen vertrouwelijk blijven naar het beste vermogen van de onderzoeker.
De risico's zullen tot een minimum worden beperkt door de gegevens offline op te slaan en alle antwoorden anoniem te maken. Contactgegevens van het onderzoek voor verdere informatie: i.m.hulleman@student.utwente.com.

Indien u vragen heeft over de rechten als deelnemer aan dit onderzoek en meer informatie wenst te verkrijgen of eventuele zorgen over dit onderzoek met iemand anders dan de onderzoeker wenst te bespreken, neem dan contact op met de secretaris van de Ethische Commissie van de Faculteit Gedrags-, Management- en Sociale wetenschappen aan de Universiteit Twente via: ethicscommittee-bms@utwente.nl.

Ik heb bovenstaande informatie gelezen, en ik ga akkoord met deelname aan dit onderzoek:

- ○ Ja
- ○ Nee

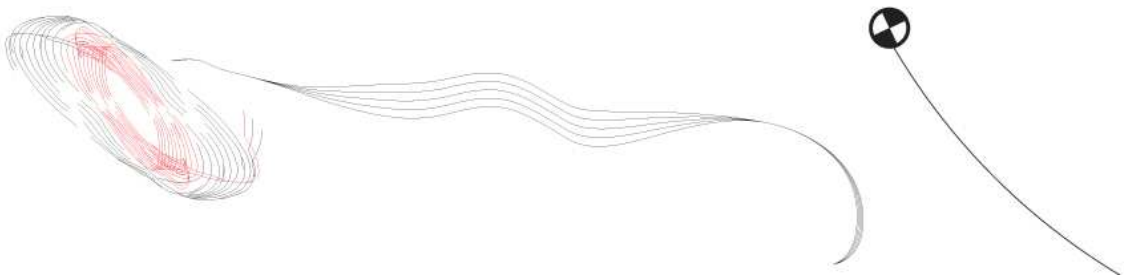
→

UNIVERSITY OF TWENTE.

Nederlands

Welkom bij dit onderzoek. Eerst zullen enkele algemene vragen worden gesteld. Daarna krijgt u een fictief scenario en visualisaties te zien. Kijk goed naar de afbeeldingen en lees de tekst aandachtig. Deel uw mening door de vragen te beantwoorden.

→



Nederlands

Land van verblijf

- ○ Nederland
- ○ Duitsland
- ○ Spanje
- ○ Frankrijk
- ○ Italië
- ○ Griekenland
- ○ België
- ○ Verenigd Koninkrijk
- ○ Bulgarije
- ○ Roemenië
- ○ Cyprus
- ○ Denemarken
- ○ Estland
- ○ Finland
- ○ Hongarije
- ○ Ierland
- ○ Letland
- ○ Litouwen
- ○ Luxemburg
- ○ Malta
- ○ Oostenrijk
- ○ Polen
- ○ Portugal
- ○ Slowakije
- ○ Slovenie
- ○ Tsjechië
- ○ Zweden
- ○ Anders, buiten Europa

Wat is uw geslacht?

- ○ Man
- ○ Vrouw
- ○ Non-binair / derde geslacht
- ○ Zeg ik liever niet

Wat is uw leeftijd? (alleen cijfers)

Heeft u een Instagram account?

- ○ Ja
- ○ Nee

Bent u bekend met influencers?

- ○ Ja
- ○ Nee

Een social media influencer is iemand die geloofwaardig is in een bepaalde branche of op een bepaald gebied, toegang heeft tot een enorm publiek en anderen kan overtuigen om te handelen op basis van hun aanbevelingen.

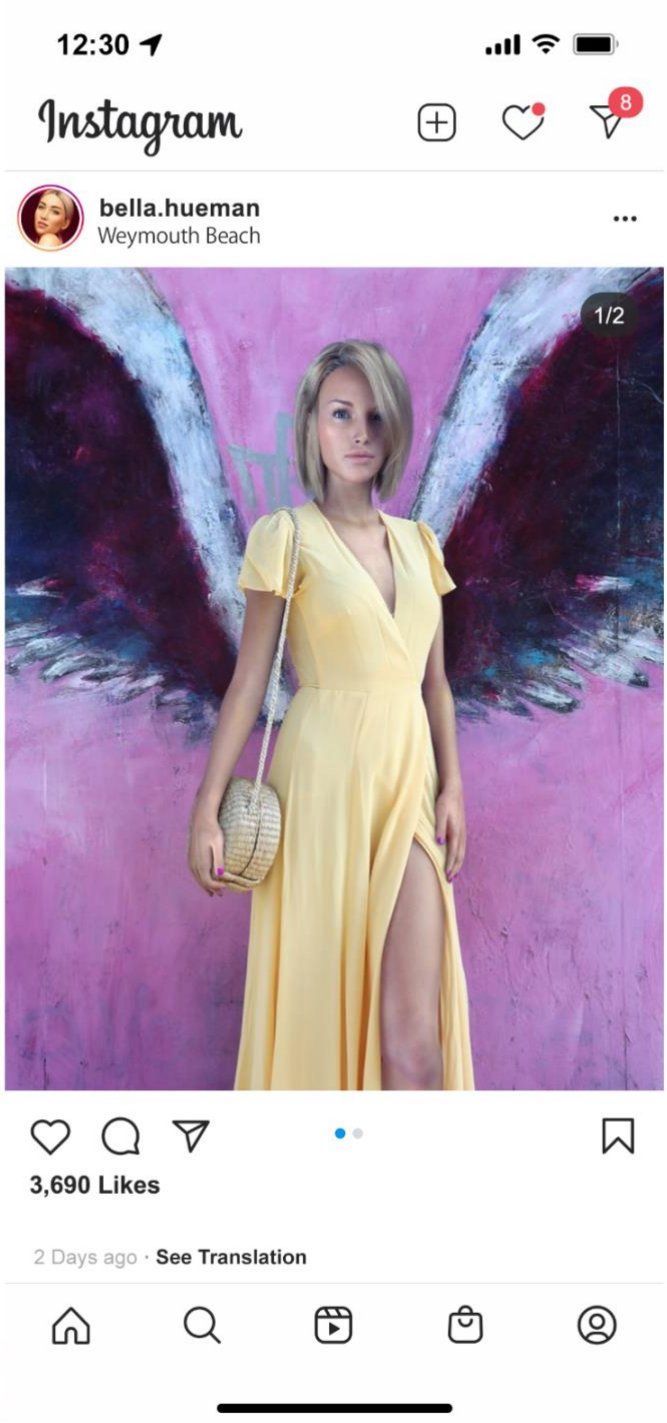
Hoe vaak zie je influencers online?

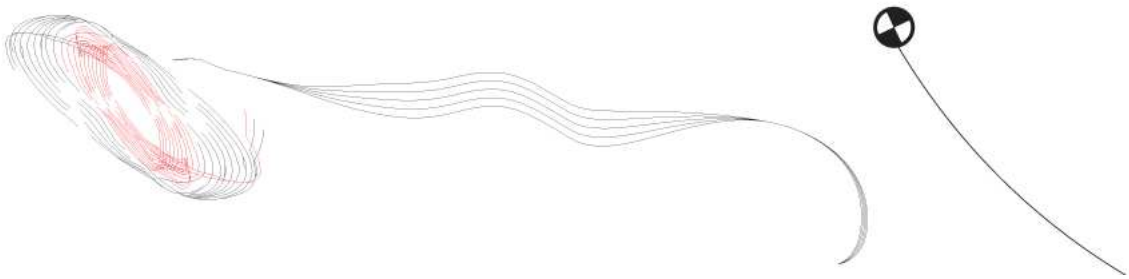
- ○ Nooit
- ○ Zeer zelden
- ○ Zelden
- ○ Af en toe
- ○ Vaak
- ○ Erg vaak

→

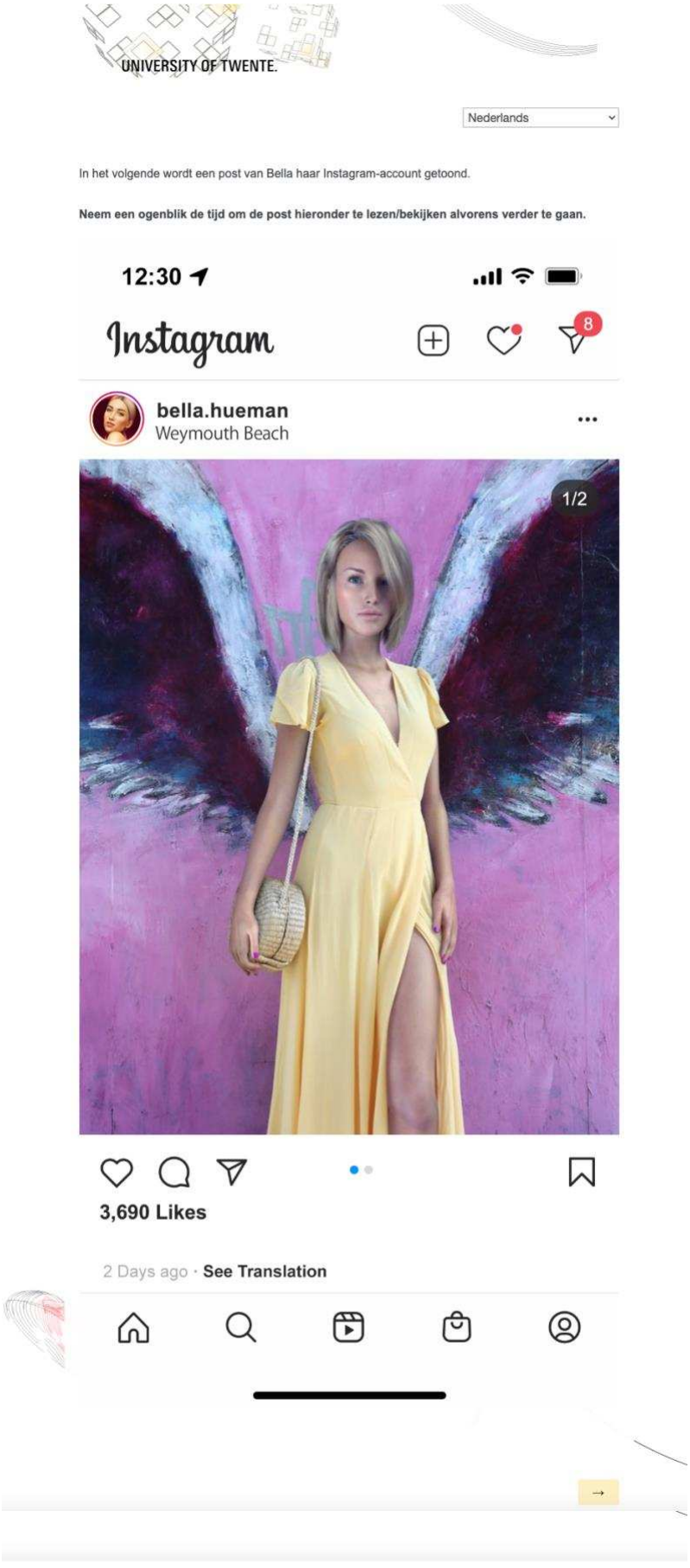
Nederlands

Dit is Bella Hueman, een meisje uit LA, een ambitieus model, en een influencer met een missie om bij te dragen aan een betere wereld.





The following shows two examples of conditions that participants could see. All the stimuli in Dutch for the main survey can be seen in Figure 4 and Appendix D. The English version can be seen in Figure 5, Figure 6, and Figure 7.



Note. Without storytelling.

Note. This is one of the 6 conditions, Artificial Intelligence-driven reveal.

Nederlands

Neem een ogenblik de tijd om de onderstaande informatie goed door te lezen/bekijken voordat u verder gaat.

In een interview zei Bella: "Eindelijk kan ik leven van wat ik het liefste doe: modellenwerk. Vroeger was ik erg dik en werd ik gepest, wat me verdrietig maakte. Kinderen kunnen harteloos zijn. Omdat ik geen vrienden had, verloor ik mezelf in lezen; boeken en veel tijdschriften. Al die mooie dames die ik in tijdschriften zag, zo wilde ik me ook voelen! Ik begon me te verdiepen in een gezonde levensstijl en verloor veel gewicht. Ik voel me mooi en, nog belangrijker, gezond! Ik wil deze boodschap doorgeven aan alle jonge mensen die worstelen met zichzelf: je bent mooi zoals je bent, maar je moet goed voor jezelf zorgen om je goed te voelen. Ik deel recepten en nieuwe producten voor een gezonde levensstijl en een betere wereld. Ik zal binnenkort een foto van mij in mijn jongere jaren laten zien, zodat je de transformatie kunt zien. Volg je dromen; alles is mogelijk!"

Note. With storytelling.

Note. This is one of the 6 conditions. No reveal.

Nederlands

U heeft zojuist een fictieve Instagram post gezien van de influencer Bella Hueman. Beantwoord de volgende stellingen over Bella naar je eigen mening.

	Helemaal mee oneens	Oneens	Enigszins oneens	Noch mee eens, noch mee oneens	Enigszins mee eens	Eens	Helemaal mee eens
Ik geloof dat Bella Hueman oprecht geïnteresseerd is in het welzijn van volgers.	○	○	○	○	○	○	○
Ik geloof dat Bella Hueman de belangen van haar volgers voorop stelt.	○	○	○	○	○	○	○
Als er problemen zijn, mag ik verwachten dat Bella Hueman eerlijk is tegen haar volgers.	○	○	○	○	○	○	○
Ik geloof dat Bella Hueman alleen dingen promoot die ze echt heeft getest en leuk vindt.	○	○	○	○	○	○	○
Ik geloof dat de communicatie van Bella Hueman eerlijk is.	○	○	○	○	○	○	○
Ik kan Bella Hueman vertrouwen.	○	○	○	○	○	○	○
Ik kan vertrouwen op de mening van Bella Hueman.	○	○	○	○	○	○	○

→

Nederlands

In welke mate bent u het eens met de volgende stellingen met betrekking tot de posts die u net gezien hebt?

	Helemaal mee oneens	Oneens	Enigszins mee oneens	Noch mee eens, noch mee oneens	Enigszins mee eens	Eens	Helemaal mee eens
Ik zou het Instagram-account van Bella Hueman verkennen op zoek naar plezier of een positieve ervaring.	○	○	○	○	○	○	○
Ik wil meer weten over Bella Hueman.	○	○	○	○	○	○	○
Bella Hueman vind ik eng.	○	○	○	○	○	○	○
Ilk zou Bella Hueman graag op willen zoeken op Instagram om meer over haar te weten te komen.	○	○	○	○	○	○	○
Bella Hueman fascineert me, ik zou haar volgen op Instagram.	○	○	○	○	○	○	○

→

Nederlands

Neem de Instagram-post van Bella Hueman als voorbeeld en reageer op de onderstaande stellingen.

	Helemaal mee oneens	Oneens	Engiszins oneens	Noch mee eens, noch mee oneens	Enigszins eens	Eens	Helemaal mee eens
Interactie met Bella Hueman op Instagram zou mij aan het denken zetten over haar.	○	○	○	○	○	○	○
Mijn interesse om meer te leren over Bella Hueman zou gestimuleerd worden als ik interactie met haar had.	○	○	○	○	○	○	○
Interactie met Bella Hueman zou me veel aan haar doen denken.	○	○	○	○	○	○	○

Neem de Instagram-post van Bella Hueman als voorbeeld en reageer op de onderstaande stellingen.

	Helemaal mee oneens	Oneens	Enigszins oneens	Noch mee eens, noch mee oneens	Enigszins eens	Eens	Helemaal mee eens
Interactie met Bella Hueman op Instagram zou me een heel positief gevoel geven.	○	○	○	○	○	○	○
Interactie met Bella Hueman op Instagram zou me heel gelukkig maken.	○	○	○	○	○	○	○
Interactie met Bella Hueman op Instagram zou me een goed gevoel geven.	○	○	○	○	○	○	○
Bella Hueman volgen op Instagram zou me trots maken.	○	○	○	○	○	○	○

Neem de Instagram-post van Bella Hueman als voorbeeld en reageer op de onderstaande stellingen.

	Helemaal mee oneens	Oneens	Enigszins eens	Noch mee eens, noch mee oneens	Enigszins eens	Eens	Helemaal mee eens
Een Instagram post van Bella Hueman moedigt me aan om hierop te reageren.	○	○	○	○	○	○	○
Een leuke Instagram post van Bella Hueman triggert om de post te 'liken'.	○	○	○	○	○	○	○
Ik ben van plan om producten te kopen die gepromoot worden door Bella Hueman.	○	○	○	○	○	○	○
Promotie van interessante producten door Bella Hueman triggert direct de drang om meer informatie over het product te zoeken.	○	○	○	○	○	○	○

Nederlands

In hoeverre vindt u de beelden die u zojuist zag realistisch?

- ◯ Zeer onrealistisch
- ◯ Onrealistisch
- ◯ Een beetje onrealistisch
- ◯ Neutraal
- ◯ Een beetje realistisch
- ◯ Realistisch
- ◯ Zeer realistisch

Na het lezen en bekijken van de tekst en afbeeldingen vind ik de influencer op een schaal van 1 tot 7: (doe dit alstublieft voor **alle 4** de sliders)

1 2 3 4 5 6 7

Saai - Spannend

Voorspelbaar - Onvoorspelbaar

Normaal - Raar

Gewoon - Bovennatuurlijk

Geven de gepresenteerde beelden en teksten u een positief of een negatief gevoel?

- ◯ Een zeer negatief gevoel
- ◯ Een negatief gevoel
- ◯ Enigszins een negatief gevoel
- ◯ Neutraal
- ◯ Enigszins een positief gevoel
- ◯ Een positief gevoel
- ◯ Een zeer positief gevoel

Voelt u zich op uw gemak bij de gepresenteerde beelden en teksten?

Geef een cijfer op een schaal van 1 tot 7, met 1 - zeer oncomfortabel tot 7 - zeer comfortabel **door de slider naar rechts te schuiven.**

1 2 3 4 5 6 7

Comfortabel gevoel op een schaal van 1 tot 7.

UNIVERSITY OF TWENTE.

Einde van de enquête

Dank u dat u de tijd heeft genomen om deze enquête in te vullen. De informatie die u hebt verstrekt, wordt echt op prijs gesteld. Vergeet alstublieft niet dat het onderzoek een fictief verhaal betrof.
Uw antwoorden zullen bijdragen aan mijn masterscriptie.
Deze thesis zal worden afgerond met een onderzoeksrapport. Mocht u opmerkingen hebben over de enquête of het onderzoeksproject, aarzel dan niet om contact met mij op te nemen via i.m.hulleman@student.utwente.com.

Met vriendelijke groeten,

Isabel Hulleman.

U kunt deze pagina verlaten.