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The Effect of AI Virtual Influencers on Purchase Intention: The Mediating Role of Parasocial Interaction: A Field Study on the Fashion Industry in Egypt

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ABSTRACT

The objective of this study is to investigate the effect of AI virtual influencers (VIs); in terms of perceived authenticity and perceived anthropomorphism on Purchase intention, viewing the mediating role of Parasocial interaction, by application on the women fashion industry in Egypt. Questionnaire was used to collect data, and a non-probability purposive sampling technique was adopted. A total of 128 responses were collected and analyzed. Partial least squares structural equation modeling (PLS-SEM) was performed in R using the SEMinR package (version 2.5.0). The findings supported all the proposed direct and indirect hypotheses, concluding that perceived authenticity and anthropomorphism play a vital role in directly influencing purchase intention, and that parasocial interaction also plays an indirect role in mediating this relationship.

Keywords: Perceived Authenticity, Anthropomorphism, Parasocial Interaction, Purchase Intention
JEL Classifications: M1, M3, M30, M31

I. INTRODUCTION

Consumers connect with technology in a novel way, which has led to a transformation in the way consumers engage with various retailing activities (van Pinxteren et al., 2019; Zogaj et al., 2023). Customers now choose online shopping over traditional stores (Zogaj et al., 2023). In order to support a brand's success, the growth of online shopping has increased the usage of human service representatives and incorporated artificial intelligence (AI)-based strategies (Davenport et al., 2020).

A character created using artificial intelligence to behave like a human on social media platforms is known as a virtual influencer (Dabiran et al., 2024). The younger generation follows virtual influencers on social media primarily for novelty and entertainment, as it fosters a sense of connection with their followers (Rossi and Rivetti, 2023). Recent research has confirmed that virtual influencer has become as powerful as human influencer and can be more effective. Followers have begun to listen to the opinions of virtual influencers on products and trust their recommendations more than human influencers (Sherif and Asaad, 2026).

Additionally, Virtual influencers offer brands exceptional benefits, including lowered production costs (e.g., no travel or reshoot expenses) and full control over persona, style, and messaging, enabling audience-specific content and persistent activity (Ozdemir et al., 2025; Zhou et al., 2024).

The global market for virtual influencers is expected to reach 326.2 billion Yuan by 2030. These influencers are currently promoting high-end fashion brands like Prada, Chanel, and Kalvin Klein (Sherif and Asaad, 2026).

Anthropomorphism, attributing human-like traits to non-human entities, plays a significant role in consumer perceptions of virtual influencers' authenticity and credibility, affecting purchase

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intentions (Barari et al., 2025; Dabiran et al., 2024; Sokolova and Kefi, 2020).

Another important point is that people's one-sided situational responses to personalities portrayed in the media are known as parasocial interactions (PSIs). When PSIs were first conceptualized, they were primarily thought to be the product of simple perceptual illusions. However, in recent years, scholars' understanding of the concept has significantly changed and now includes a range of cognitive (e.g., considering the character's behavior), affective (e.g., feeling sympathetic toward the character), and conative (e.g., Smiling or laughing because of what the character said) elements (Dibble et al., 2016; Schramm and Hartmann, 2008).

The increasing use of virtual influencers has significantly influenced both consumer behavior and contemporary marketing practices. By designing virtual influencers that reflect the preferences and expectations of their target audiences, brands can strengthen consumer engagement and foster greater loyalty, while maintaining consistent communication of brand values and messages through these digital personas (Audrezet and Koles, 2023; Arsenyan and Mirowska, 2021) However, despite the widespread adoption of virtual influencers in brand communication, there remains limited understanding of how particular anthropomorphic characteristics affect consumers' perceptions of authenticity and source credibility, which are two fundamental determinants of influencer effectiveness. This study focuses on how the AI virtual influencers in the fashion industry can impact a purchasing intention viewing the mediating role of parasocial interaction.

2. THEORETICAL BACKGROUND

2.1. First: AI Virtual Influencers

The advancement of artificial intelligence (AI) has created a new paradigm in the digital realm, and the usage of AI-based entirely digital influencers on social media platforms has transformed digital advertising strategies. This phenomenon reflects a strategic shift in the concept of client interaction, whereby algorithmically created virtual personas are beginning to supplant the authority and influence previously controlled by traditional human influencers. This adjustment opens new dimensions in content personalization and branding marketing campaign scalability (Putra et al., 2025).

Virtual influencers are a new type of influencer that has just surfaced in the influencer marketing space. Recent technological developments have made it possible to create humanized virtual influencers that are almost identical to actual people (Hofeditz et al., 2022). The distinction between virtuality and reality is becoming hazier as marketers use these virtual influencers to market their goods (Moustakas et al., 2020). For example, Time Magazine named Lil Miquela (@lilmiquela) and other well-known individuals among the 25 most important persons (Byun and Ahn, 2023).

Based on shape and appearance, virtual influencers (VIs) are split into three categories: mimic-human VIs, animated-human VIs, and non-human VIs., The first type is the mimic-human VI which is highly close to a real human in appearance, voice and behavior. The second type is the animated-human VI, which is drawn to resemble a person but appears as an animated character. It is considered a caricature with human features. The third category is the non-human VI, which can manifest as an inanimate item, an animal, or a fictional creature (Sherif and Asaad, 2026). Across social media platforms, virtual influencers get the highest levels of engagement from Generation Z and Generation Y.

An influencer needs to be trustworthy, knowledgeable, and beautiful in order to earn credibility with their audience. In order for followers to view an influencer's advice as trustworthy and dependable, the influencer should be well-informed about the product they are endorsing. Influencers also need to be able to draw in their audience and create a feeling of satisfaction and connection. Emotions also play a key role in developing this bond and boosting the impact of the advertising message (Wiedmann and Von Mettenheim, 2021). Rather than concentrating on a single sector, the virtual influencer became a brand icon in a variety of industries, including fashion, entertainment, and beauty (Sherif and Asaad, 2026).

There are several advantages of using virtual influencers (Koles et al., 2024). Because digital technologies like computer graphics and artificial intelligence are used to develop and manage virtual influencers, businesses (like brands) can carefully control how virtual influencers look to appeal to audiences (Lee et al., 2025). Additionally, because virtual influencers are virtual, they can use creative narrative strategies to increase user engagement, including showcasing fashion goods on fire on a virtual stage (Audrezet and Koles, 2023).

However, because they are virtual, virtual influencers have significant disadvantages. Their incentive for endorsements is intrinsically profit-driven since they are created and run by businesses. Such motivation for endorsement raises questions regarding the authenticity of their recommendations due to their lack of physical existence. Therefore, their perceived credibility may be diminished by their virtual identity and the lack of transparency regarding their economic intentions (Choudhry et al., 2022).

Furthermore, it has been discovered that revealing the origin of the virtual influencer reduces perceptions of parasocial relationships, negatively impacting their trustworthiness (Lim and Lee, 2023).

In this study, the authors specified two dimensions of AI virtual influencers to be examined which are: Perceived authenticity and perceived anthropomorphism.

2.1.1. Perceived authenticity

In the field of influencer marketing, the persuasiveness of messages is known to be significantly influenced by the authenticity of influencers. Byun and Ahn (2023) showed that gaining the audience's perception of authenticity is the aim of both real and virtual influencers. Because of this, the idea of authenticity is seen to be one of the fundamental concepts that could offer a theoretical explanation of how virtual influencers might resemble or diverge from actual influencers. Using Lee's (2020) definition

of authenticity, the perceived authenticity of influencers can be described as the degree to which their communication actions are thought to be sincere and real (Lee et al., 2025).

According to research, perceived authenticity encompasses a variety of aspects, such as sincerity, visibility, professionalism, authentic recognition, and distinctiveness. The relationship between consumers' consumption behaviors (such as brand trust and purchase intention) is influenced by how they perceive the authenticity traits of virtual influencers, such as knowledge and sincerity (Yang et al., 2025).

According to a prior study, virtual influences may be viewed as para-authentic if the user's perception of the virtual entity truly resonates with an actual entity that it mimics. To put it another way, when a virtual influencer's identity matches that of the human influencers they claim to be (Byun and Ahn, 2023; Huang and Jung, 2022), they can be considered nearly authentic (i.e., real). In order to replicate the look and actions of real influencers, virtual influencers are created utilizing computer graphics technology (Audrezet and Koles, 2023; Moustakas et al., 2020). People may view virtual influencers as equally authentic as human influencers if they can identify cognitive linkages (such as similarities) between the two.

Additionally, strong narrative abilities and human-like characteristics are crucial for virtual influencers to appear genuine. The impact of perceived authenticity depends on how much people relate to the character through parasocial interactions. However, this impression appears to be brittle, and elements like the uncanny valley effect, where a near-human appearance causes discomfort, can erode customers' confidence (Yang et al., 2025).

Moreover, Influencers who are regarded as having a high level of authenticity tend to be more successful in building consumer trust and influencing their purchase decisions. The importance of perceived authenticity provides an explanation for why some influencers are more successful in engaging with their audiences because authentic endorsements have a major impact on followers (Yang et al., 2025).

2.1.2. Perceived anthropomorphism

A crucial idea in marketing and information systems is anthropomorphism, which is the attribution of human traits to non-human entities, such as emotions, personality, and physical characteristics like facial expressions (Koles et al., 2024; Golossenko et al., 2020). It fosters engagement and favorable brand perceptions across AI-driven technologies by improving audience connection with non-human agents like chatbots, voice assistants, social robots, and virtual influencers (VIs) (Miao et al., 2022).

According to, the degree of anthropomorphism that virtual influencers display is a crucial feature. The attribution of human traits, emotions, or behaviors to non-human entities, including animals, objects, and virtual avatars, is known as anthropomorphism (Byun and Ahn, 2023). The degree to which digital characters resemble people in terms of look and/or behavior is known as VI anthropomorphism (Mouritzen et al., 2024). According to Dabiran et al. (2024), VIs can be broadly classified into two groups: those that are highly anthropomorphic and closely resemble people, and those that are less anthropomorphic and more cartoonish.

2.2. Second: Parasocial Interaction

The term parasocial interaction (PSI) was first developed by Horton and Wohl (1956) to describe the one-sided interaction that occurs between audiences and media personalities (Horton and Wohl, 1956). As audiences watched media personalities on a regular basis, they started to perceive television hosts, entertainers and other public figures as familiar, despite the absence of direct interaction between them (Rubin and McHugh, 1987).

Horton and Wohl described this as an "illusion of a face-to-face relationship" and referred to it as "intimacy at a distance" (Horton and Wohl, 1956). This interaction is one-sided since the media figure is unaware of the viewer's existence. Repeated exposure to the media figure strengthened perceptions of trust, familiarity, and friendship-like intimacy, despite the absence of a two-way direct interaction (Rubin and McHugh, 1987).

With the emergence of social media, PSI became increasingly relevant (Labrecque, 2014). Social media platforms such as Instagram, TikTok and Facebook allow increased interaction between influencers and their followers through features such as direct messaging, likes, comments, shares and reposts (Sokolova and Kefi, 2020). Perceptions of intimacy, connection and trust are felt by viewers toward the influencer they are following on social media, even though the interaction remains one-sided (Nah, 2022).

Despite lacking real cognition or emotions, virtual influencers can still evoke feelings of intimacy and psychological closeness among consumers. As with traditional media figures, these relationships remain unilateral and are based on audiences' perceptions rather than reciprocal social interaction (Thomas and Fowler, 2021). PSI is merely the audience's perceived illusion of interacting with virtual influencers (Jones et al. 2022).

2.3. Third: Purchase Intention

The theory of planned behavior states that behavioral intention is the immediate antecedent of behavior (Azjen, 1991). Purchase intention refers to a person's willingness to buy a product or service (Nazarani and Suparna, 2021). When consumers show a high level of willingness to buy a particular product or service, they are more likely to go ahead and make the actual purchase (Dodds et al., 1991).

Within influencer marketing, purchase intention refers to the consumers' willingness to purchase products or services endorsed by social media influencers' recommendations (Lou and Yuan, 2019). In the social media context, purchase intention can be influenced by several factors. For example, purchase intention is affected by the extent to which the audience trusts the recommendations given by the influencer; the higher the trust, the higher the purchase intention (Sokolova and Kefi, 2020). Additionally, purchase intention can also be influenced by product-

related factors such as price, quality, and availability (Dodds et al., 1991). Beyond product characteristics, marketing-related factors such as brand image, perceived value, and promotions have also been shown to positively affect purchase intention (Kotler and Keller, 2016).

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

3.1. The Relationship between AI Virtual Influencers and Purchase Intention

The study of (Malhotra and Ramalingam, 2025) investigated the effect of perceived anthropomorphism on purchase intention in the retail sector, viewing the moderating role of trust. The findings demonstrated that in order to improve their shopping experience, consumers typically desire anthropomorphized products. As a result, they need features that use artificial intelligence through mediating variables like perceived animacy and perceived intelligence to entice and encourage them to make a purchase. In addition, it is shown that trust moderates the relationship between perceived anthropomorphism and perceived animacy.

In addition, (Zhou et al., 2026) conducted a systematic review study examining virtual influencers attributes and purchase intention. A total of 49 Peer-reviewed journal papers were found through Scopus, Web of Science, and Taylor and Francis Online up until November 18, 2025, and they were screened using predetermined criteria in accordance with PRISMA guidelines. The results compile a variety of virtual influencer attributes into five primary dimensions: Attractiveness and Anthropomorphism, Competence and Credibility, Interaction and Engagement, Social Relations, and Identity and Expressiveness. Purchase intention is most frequently linked with human-likeness, attractiveness, credibility, experience, interactivity, social presence, resemblance, and congruence-related indicators, which operate through psychological mechanisms for example, trust formation, para-social interaction, satisfaction, and affective assessment (Zhou et al., 2026).

Based on the above literature, the following hypotheses are developed:

H_1: AI virtual influencers have a statistically significant effect on purchase intention

H_{1a}: Perceived authenticity has a statistically significant effect on purchase intention

H_{1b}: Perceived anthropomorphism has a statistically significant effect on purchase intention.

3.1.1. The relationship between AI virtual influencers and parasocial interaction

Whitmore's (2026) conceptual paper examined how AI virtual influencers are transforming social media communication by challenging traditional notions of parasocial interactions, authenticity, credibility, and trust. It presented a three-dimensional framework - synthetic authenticity, parasocial attachment, and platform-mediated trust - to explain AI virtual influencer communication, building on theories of human–machine communication, influencer marketing, parasocial interaction, and algorithmic visibility. The intentional production of a sense of realism surrounding non-human digital characters is known as synthetic authenticity. The one-sided emotional connections that viewers form with virtual influencers are reflected in parasocial attachment. Platform-mediated trust demonstrates how audience perceptions and assessments are influenced by elements like social media visibility, influencer credibility, disclosure policies, and brand affiliations. The study concluded that AI virtual influencers should be seen as new communication actors that highlight broader issues in AI-driven society rather than just as marketing tools (Whitmore, 2026).

Additionally, Wang et al. (2026) investigated how much AI applicants, like virtual influencers, form parasocial relationships (PSRs) with people and how these relationships affect hedonic and utilitarian values, which in turn shape behavioral intention. In addition, it looks into how behavioral intention toward virtual influencers is impacted by intelligence, both directly and indirectly, as well as internal and external anthropomorphism. The results show that parasocial relationships (PSR) both directly and indirectly influences behavioral intention through utilitarian and hedonistic values. While internal anthropomorphism increases PSR, external anthropomorphism raises hedonic value. Furthermore, both value kinds and PSR are strongly impacted by intelligence (Wang et al., 2026).

Besides, in order to investigate how AI influencers might create deep connections with audiences, Shil (2025) suggested a conceptual model that combines consumer psychology, adaptive AI design, and parasocial relationship theory. The model offers a framework for brands to use AI influencers to improve consumer engagement and provide customized product recommendations, supporting both consumer relationships and the brand's financial objectives. It does this by examining elements like dynamic emotional resonance, real-time sentiment adaptation, and customized interaction styles.

In the same context, (Maeda and Quan-Haase, 2024) presented an overview of the literature on parasociality, social affordance, and trust in their study. They critically analyzed how user role projection and chatbot "roleplaying" jointly create a technologically mediated, pseudo-interactive environment with unbalanced user-chatbot dynamics. The authors created a conceptual framework of parasociality in chatbots based on a literature survey, which explains human-anthropomorphized chatbot interactions. They examined how chatbots portray themselves as users' companions or assistants through the use of personal pronouns, conversational conventions, affirmations, and similar techniques, and how these strategies encourage users to develop trust. Lastly, several ethical issues were listed that arise from parasociality based on the conceptual framework, such as task misalignment, delusions of reciprocal engagement, and sensitive information breaches. The study argued that these potential consequences arise from a positive feedback cycle wherein anthropomorphized chatbot features motivate users to fill in the context about predictive outcomes.

Based on the above literature, the following hypotheses were developed:

H_2: AI virtual influencers have a statistically significant effect on parasocial interaction

H_2a: Perceived authenticity has a statistically significant effect on parasocial interaction

H_2b: Perceived anthropomorphism has a statistically significant effect on parasocial interaction.

3.1.2. The relationship between parasocial interaction (PSI) and purchase intention

Several studies have shown that PSI has a significant and positive effect on audiences' purchase intention (Sokolova and Kefi, 2020, Purnamaningsih and Rizkalla, 2020).

Sokolova and Kefi (2020) found that increased PSI with Instagram and YouTube influencers significantly increase purchase intentions. This happens because followers who perceive their relationship with influencers as intimate, feel psychologically close to them and are more likely to trust their recommendations for products (Sokolova and Kefi, 2020).

Similarly, Purnamaningsih and Rizkalla (2020) showed that consumers who develop stronger parasocial relationships with beauty influencers show higher intentions to purchase the endorsed products. Their studies suggest that emotional connections with influencers enhance consumers' acceptance of product endorsements (Purnamaningsih and Rizkalla, 2020).

Gopakumar and Dananjayan (2024) explained how and why Instagram beauty influencers affect consumers' purchase intentions. Consumers who developed stronger unilateral relationships with beauty influencers were more likely to have intentions to purchase the products they endorsed (Gopakumar and Dananjayan, 2024).

Although the relationship between PSI and purchase intention has been extensively examined in the context of human influencers, recent research suggests that similar psychological mechanisms may also operate in virtual influencer marketing (Lee and Watkins, 2016). Brands are increasingly collaborating with virtual influencers as part of their marketing campaigns (Thomas and Fowler, 2021). Virtual influencers are particularly appealing to younger generations and the technologically savvy consumer (Franke et al., 2023). Even though virtual influencers lack real human emotions, research suggests that it is still possible for consumers to develop some sort of psychological connection with them, resulting in more positive brand attitudes, increased engagement and stronger purchase intentions (Kim and Kim, 2025).

Other studies have also demonstrated that parasocial interaction serves as an antecedent to purchase intention (Lee and Lee, 2022). Therefore, an increase in parasocial interactions results in a corresponding increase in purchase intention. Lee and Lee (2022) concluded that parasocial interaction significantly enhances vicarious experiences (the indirect experience of a product, service, or event through observing and engaging with another person's experience rather than experiencing it firsthand). Additionally, they found that these experiences reduce perceived risk, and reduced risk leads to higher purchase intentions for beauty products, concluding that parasocial interaction has a significant positive indirect effect on purchase intention (Lee and Lee, 2022).

Although virtual influencer marketing has experienced rapid growth in recent years, academic research in this field is still under development (Sharma and Kumar, 2026). Existing empirical research is largely focused on East Asian contexts, in particular China and South Korea (Laszkiewicz and Kalińska-Kula, 2023).

Based on the above literature, the following hypothesis was developed:

H_3: Parasocial Interaction has a statistically significant effect on Purchase Intention.

3.1.3. PSI as a mediator between AI virtual influencers and purchase intention

A study by Lee and Watkins (2016) investigated the impact of YouTube beauty and fashion vloggers on consumers' intentions to purchase luxury products. Their findings concluded that consumers who feel a stronger parasocial relationship with a vlogger evaluate the luxury brands endorsed by that vlogger more favorably, thereby increasing their intention to purchase that product (Lee and Watkins, 2016).

Similarly, Sokolova and Kefi (2020) showed that PSI improves perceptions of the endorsed brand, and these positive brand perceptions consequently increase consumers' purchase intentions. Their findings indicate that brand perception acts as a mediator between PSI and purchase intention (Sokolova and Kefi, 2020).

Furthermore, Sutiono et al. (2024) demonstrated that PSI significantly mediated the relationship between social media influencers and purchase intentions, revealing that consumers' emotional connections with influencers help explain how influencer marketing translates into purchase intentions (Sutiono et al., 2024).

Aw and Chuah (2021) investigated how social media influencers develop parasocial relationships with their followers and how these relationships affect consumers' purchase intentions. Their findings showed that influencers' attractiveness, expertise, and prestige significantly strengthened followers' PSI. Subsequently, stronger PSI affected perceptions of their endorsements making them appear more authentic and trustworthy, which in turn increased consumers' purchase intentions. These findings highlight PSI as an important psychological mechanism through which influencer characteristics influence consumers' purchasing decisions (Aw and Chuah, 2021).

Based on the above literature, the following hypothesis was developed:

H_4: Parasocial Interaction has a statistically mediating effect on the relationship between the dimensions of AI virtual influencers and purchase intention.

4. CONCEPTUAL FRAMEWORK

Based on the above discussion, this research model, shown in (Figure 1), was developed.

5. RESEARCH METHODOLOGY

5.1. Research Design and Sampling

A quantitative, cross-sectional research design was employed to examine the direct and indirect relationships among perceived authenticity, perceived anthropomorphism, parasocial interaction, and purchase intention in the context of AI virtual influencers. Specifically, the study investigated whether parasocial interaction mediated the relationships between perceived authenticity and purchase intention and between perceived anthropomorphism and purchase intention.

The target population comprised Egyptian social media users who were familiar with AI virtual influencers and fashion-related social media content. Because prior familiarity with the study context was required to provide meaningful responses, a non-probability purposive sampling technique was adopted. Data were collected using a structured questionnaire. A total of 128 responses were initially obtained. During data screening, one response was excluded because it was incomplete across the study indicators. No missing values were imputed, and no respondent answers were modified. Accordingly, the final sample comprised 127 usable responses. The final sample consisted entirely of female respondents; therefore, the generalizability of the findings to male consumers and more gender-diverse populations should be interpreted with caution.

A statistical power analysis was conducted to assess the adequacy of the final sample size. The calculation was based on the most complex endogenous equation in the structural model, in which purchase intention was predicted by three constructs: Perceived authenticity, perceived anthropomorphism, and parasocial interaction. Under a linear multiple-regression framework, assuming a medium effect size of $f^2 = 0.15$, a significance level of $\alpha = 0.05$, statistical power of 0.80, and three predictors, the minimum required sample size was 77 respondents. The final sample of 127 respondents therefore exceeded the minimum requirement and was considered adequate for estimating the proposed PLS-SEM model (Sarstedt et al., 2021).

5.2. Data Collection Process and Ethical Considerations

The online survey was conducted using Google Forms. Participation was purely voluntary and potential participants were briefed about the research before undertaking the survey. By sending back the completed survey form, potential participants were indicating their informed consent to the research. No information identifying the participants was collected as their responses were treated in an anonymous and confidential manner.

To minimize the risk of common method bias, a number of procedural measures were introduced. The participants were assured of the confidentiality and anonymity of their responses, that there were no right or wrong answers, and that the information provided was to be used for research only. They were also encouraged to answer based on their own perceptions and experiences.

5.3. Measurement Instrument

The questionnaire had two parts. The first part dealt with demographic characteristics such as age, gender, and average daily use of social media. The second part was composed of 16 questions measuring four different concepts: Perceived authenticity, perceived anthropomorphism, parasocial interaction, and intent to buy.

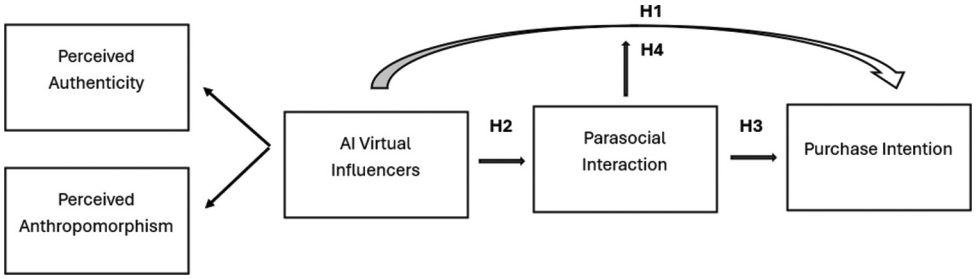
Perceived authenticity was measured using three items. Perceived anthropomorphism and parasocial interaction were each measured using four items, while purchase intention was initially measured using five items. The items measuring the constructs were presented using a 5-point Likert-type scale where 1 means strongly disagree and 5 means strongly agree. The wording of the items was retained as presented in the questionnaire and adapted to the context of AI virtual influencers in the fashion industry.

Following the assessment of the reflective measurement model, one purchase intention indicator was excluded from the final model. The deleted indicator was the reverse-worded item PI5:

"I will never buy products advertised by AI virtual influencers."

After being correctly reverse-scored, PI5 remained negatively related to the other purchase intention indicators and substantially reduced the internal consistency of the construct. Its removal was therefore justified by its weak psychometric performance and the potential method effect introduced by reverse wording.

Figure 1: Conceptual framework



Source: Developed by authors

The final measurement model comprised four reflective first-order constructs measured by 15 retained indicators. Perceived authenticity was represented by three indicators, perceived anthropomorphism by four indicators, parasocial interaction by four indicators, and purchase intention by four indicators. The term AI virtual influencer attributes was used as an overarching conceptual label, while perceived authenticity and perceived anthropomorphism were modeled as two distinct first-order constructs.

5.4. Data Screening

Data were checked for missing cases, invalid responses, and incomplete information prior to assessing the PLS-SEM model. Out of 128 survey forms received initially, one was disqualified due to incompleteness measured by the indicators used in this study. Data from the remaining forms did not contain any missing value in the variables used in the resultant measurement models and the answers given fell within the valid five-point Likert scale answers. The responses were not adapted. This means there were 127 valid responses available for the PLS-SEM analysis (Hair et al., 2019).

5.5. Statistical Analysis

Partial least squares structural equation modeling (PLS-SEM) was performed in R using the SEMinR package (version 2.5.0). All constructs were specified as reflective and estimated using Mode A. The method was appropriate for the study as it focused on predicting purchase intention, while studying the direct and indirect relationships among the constructs examined in the study. All constructs were specified as reflective constructs, and the estimation was conducted using Mode A which applies correlation-based outer weights to reflective indicators.

The significance of the results was checked using nonparametric bootstrapping with 5,000 samples. The random seed was given a fixed value of 2025, in order to support the reproducibility of the analysis. Two-tailed tests were applied, the significance was assessed through the use of bootstrap standard errors, t-values, P = 95% percentile bootstrap confidence intervals.

Analysis was conducted in two stages. The first stage included testing the reflective measurement model, i.e., examining the reliability of the indicators, reliability of internal consistency, convergent validity, and discriminant validity. The second stage included examining the structural model by checking collinearity diagnostics, standardized path coefficients, coefficients of determination, effect size, predictive power, and specific indirect effects (Hair et al., 2021).

5.6. Measurement Model Evaluation

The reflective measurement model's evaluation was carried out using standardized outer loadings, Cronbach's alpha, Dijkstra-Henseler's coefficient of reliability (ρA), composite reliability, and average variance extracted. Outer loadings equal to or above 0.708 were deemed to be sufficient. Internal consistency reliability was viewed as acceptable when reliability coefficients exceed 0.70. Convergent validity was determined when AVE was above 0.50.

Discriminant validity was examined through the use of the heterotrait-monotrait ratio of correlations (HTMT). When HTMT values were below the stringent threshold of 0.85, adequate discriminant validity was supported. Moreover, bootstrap confidence intervals were evaluated to see if they contained a value of 1.00. The Fornell-Larcker criterion was used as supplementary evidence of construct distinctiveness (Sarstedt et al., 2021).

5.7. Structural Model and Mediation Assessment

After establishing the adequacy of the measurement model, the structural model was assessed. Collinearity among the predictor constructs was examined using inner variance inflation factor (VIF) values. The hypothesized direct relationships were then evaluated using standardized path coefficients, bootstrap standard errors, t-values, P-values, and 95% percentile bootstrap confidence intervals.

The explanatory power of the model was assessed using R^2 and adjusted R^2 values for the endogenous constructs. Effect sizes (f^2) were calculated to determine the unique contribution of each predictor to the explained variance of the corresponding endogenous construct. The model's out-of-sample predictive performance was also evaluated using PLS predict with 10-fold cross-validation and 10 repetitions and a fixed seed of 2025. The assessment considered indicator-level Q^2 predict values and comparisons between the root mean squared errors obtained from the PLS-SEM model and those produced by the linear-model benchmark.

The mediating role of parasocial interaction was examined through two specific indirect relationships: perceived authenticity → parasocial interaction → purchase intention (H_{4a}) and perceived anthropomorphism → parasocial interaction → purchase intention (H_{4b}). An indirect effect was considered statistically significant when its 95% bootstrap confidence interval did not contain zero. The mediation type was determined by considering the significance and direction of both the direct and indirect effects (Sarstedt et al., 2021).

6. DATA ANALYSIS AND RESULTS

6.1. Sample Characteristics

The details of the sample's demographic profile were analyzed to understand the structure of the final sample. Table 1 shows how the sample respondents were categorized based on age, gender, and their overall engagement with social media.

The demographic characteristics of the 127 respondents as presented in Table 1 indicate that the sample comprised entirely

Table 1: Sample characteristics (n=127)

Variable	Category	Frequency	Percentage
Age	18-28 years	36	28.35
	29-38 years	33	25.98
	39-48 years	52	40.94
	Above 48 years	6	4.72
Gender	Female	127	100.00
Daily social media use	1-3 h/day	31	24.41
	3-5 h/day	54	42.52
	More than 5 h/day	42	33.07

Percentages were calculated based on the full sample of 127 respondents. Minor differences in totals may arise because of rounding

female respondents. In terms of age group, the majority of respondents were 39-48 years old (40.94%). The second largest group consisted of those respondents who were between 18 and 28 years old (28.35%), while the third group was made up of those respondents aged 29-38 years old (25.98%). Respondents above 48 years old accounted for 4.72% of the sample.

Daily use of social media by the respondents was relatively high as well. The majority of respondents (42.52%) indicated their usage to range between 3 and 5 h/day, while a little over one-third of respondents (33.07%) spent more than 5 h/day on social media. Only 24.41% of respondents reported their usage to be from 1 to 3 h. Consequently, most respondents (75.59%) spent more than 3 h online, which suggests that they were considerably exposed to the digital setting where AI virtual influencers operate. At the same time, the fact that the sample was exclusively female should be considered when discussing the generalization of the results.

6.2. Reflective Measurement Model Assessment

6.2.1. Indicator reliability, internal consistency, and convergent validity

The assessment of the reflective measurement model's descriptive characteristics and quality of the measurement model came first prior to analysis of structural relationships. Table 2 presents descriptive statistics of the constructs and relative importance as well as indicator reliability and convergent validity of each construct.

Table 2 shows that perceived anthropomorphism was rated as having the highest mean score (M = 3.86, SD = 0.90), followed by purchase intention (M = 3.83, SD = 0.90). Mean value of perceived authenticity and parasocial interaction shows an average of 3.54 (SD = 0.96) and the lowest average of 3.46 (SD = 1.10) respectively, but all four constructs demonstrated high agreement with values of relative importance between 69.1% and 77.1%.

The measurement outcomes additionally provided satisfactory evidence of convergent validity and reliability among the constructs. Cronbach's alpha values ranged from 0.82 up to 0.93 and all ρ_A values varied from 0.83 to 0.93. Composite reliability showed much higher than minimum recommended threshold value of 0.70 with values ranging between 0.88 and 0.95. Moreover, AVE values between 0.66 and 0.82 were significantly above the minimum acceptable value of 0.50. What is more, all indicators revealed standardized outer loading ranging from 0.73 to 0.94, thus proving indicator reliability.

To complement the construct-level assessment reported in Tables 2 and 3 presents the results for the individual indicators. It reports the item means and standard deviations, relative importance, within-construct ranking, standardized outer loadings, corrected item–total correlations, and Cronbach's alpha values if each item were removed. This item-level assessment provides a closer examination of the performance of the 15 indicators retained in the final measurement model.

At the indicator level, all retained items demonstrated satisfactory outer loadings, ranging from 0.732 to 0.937 and exceeding the recommended threshold of 0.708. The corrected item–total correlations ranged from 0.596 to 0.887 and were above the commonly accepted minimum of 0.30. The alpha-if-deleted results did not provide sufficient justification for removing any additional indicator. Accordingly, all 15 indicators were retained in the final measurement model.

6.3. Discriminant Validity

6.3.1. Fornell-Larcker criterion

The first step in assessing the discriminant validity was with Fornell-Larcker criterion, which states that the square root of the average variance extracted for each construct has to be greater than the correlation values with the other constructs. The results of the analysis are summarized in Table 4.

As seen in Table 4, the square roots of AVE for all constructs exceed the correlation values with other constructs as well. The diagonal values are from 0.811 for purchase intention to 0.906 for parasocial interaction and the maximum inter-construct correlation equals 0.727 (between parasocial interaction and purchase intention). This means that each construct has more shared variance with its own set of indicators than with any other constructs; hence, the discriminant validity is supported, according to the Fornell-Larcker criterion.

6.3.2. Heterotrait-Monotrait ratio of correlations (HTMT)

The Heterotrait-Monotrait ratio of correlations (HTMT) was used as the primary criterion for assessing discriminant validity. Table 5 reports the HTMT estimates and their corresponding 95% bootstrap confidence intervals.

All HTMT estimates were below the conservative threshold of 0.85, ranging from 0.620 to 0.823. Moreover, none of the 95% bootstrap confidence intervals included 1.00, providing support for discriminant validity among the four constructs as indicated at Table 5 and Figure 2.

6.4. Structural Model Assessment and Direct Hypothesis Testing

Following the confirmation of the measurement model's adequacy, structural direct relationships were analyzed using 5,000 bootstrap

Table 2: Construct descriptive statistics, reliability, and convergent validity

Construct	Items	Mean	SD	Relative importance (%)	Agreement level	Cronbach's α	ρ_A	Composite Reliability	AVE
PA	3	3.54	0.96	70.8	High	0.85	0.86	0.91	0.77
PAN	4	3.86	0.90	77.1	High	0.83	0.87	0.89	0.66
PSI	4	3.46	1.10	69.1	High	0.93	0.93	0.95	0.82
PI	4	3.83	0.90	76.6	High	0.82	0.83	0.88	0.66

PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention, ρ_A: Dijkstra-Henseler's reliability coefficient, CR: Composite reliability, AVE: Average variance extracted. Relative importance was calculated as (Mean÷5) ×100. Agreement levels were classified based on the mean score as follows: 1.00-1.79=Very Low; 1.80-2.59=Low; 2.60-3.39=Moderate; 3.40-4.19=High; and 4.20-5.00=Very High

Table 3: Item-level descriptive statistics and measurement results

Construct	Item	M	SD	Rel. Imp. (%)	Agreement	Rank	Loading	CITC	α if deleteda
PA	PA1	3.51	1.14	70.2	High	2	0.832	0.669	0.833
PA	PA2	3.63	1.07	72.6	High	1	0.904	0.771	0.734
PA	PA3	3.48	1.09	69.6	High	3	0.890	0.707	0.793
PAN	PAN1	3.89	1.12	77.8	High	2	0.739	0.631	0.799
PAN	PAN2	4.02	1.11	80.3	High	1	0.732	0.612	0.807
PAN	PAN3	3.66	1.16	73.2	High	4	0.893	0.709	0.762
PAN	PAN4	3.86	1.05	77.2	High	3	0.873	0.685	0.775
PSI	PSI1	3.43	1.21	68.5	High	3	0.928	0.872	0.891
PSI	PSI2	3.46	1.24	69.1	High	2	0.937	0.887	0.886
PSI	PSI3	3.31	1.26	66.3	Moderate	4	0.921	0.863	0.894
PSI	PSI4	3.63	1.17	72.6	High	1	0.834	0.704	0.944
PI	PI1	3.76	1.13	75.3	High	3	0.793	0.603	0.790
PI	PI2	4.19	0.95	83.8	High	1	0.822	0.684	0.761
PI	PI3	3.56	1.25	71.2	High	4	0.776	0.596	0.800
PI	PI4	3.81	1.11	76.2	High	2	0.850	0.709	0.741

CITC: Corrected item–total correlation, α if deleted: Cronbach's alpha if the corresponding indicator were removed. Relative importance was calculated as (M÷5) ×100. Rank was determined within each construct. Agreement levels were classified based on the mean score as follows: 1.00-1.79=Very Low; 1.80-2.59=Low; 2.60-3.39=Moderate; 3.40-4.19=High; and 4.20-5.00=Very High. Rank was determined within each construct

Table 4: Fornell-Larcker criterion

Construct	PA	PAN	PSI	PI
PA	**0.876**			
PAN	**0.531**	**0.813**		
PSI	**0.576**	**0.664**	**0.906**	
PI	**0.623**	**0.672**	**0.727**	**0.811**

Bold diagonal values represent the square roots of AVE, whereas the off-diagonal values represent correlations between the latent constructs. PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention

Table 5: HTMT ratios and bootstrap confidence intervals

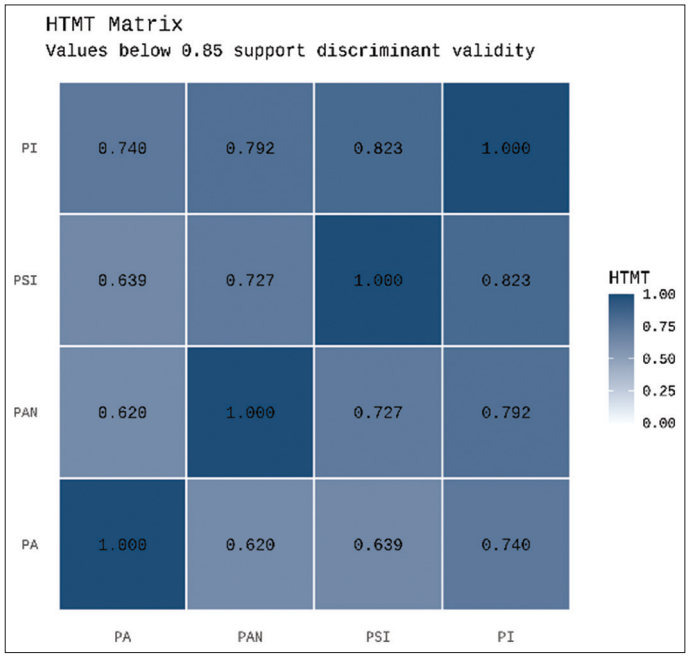
Construct pair	HTMT	95% CI lower	95% CI upper	Assessment
PA-PAN	0.620	0.433	0.784	Supported
PA-PSI	0.639	0.466	0.781	Supported
PA-PI	0.740	0.564	0.883	Supported
PAN-PSI	0.727	0.582	0.849	Supported
PAN-PI	0.792	0.628	0.916	Supported
PSI-PI	0.823	0.713	0.906	Supported

HTMT: Heterotrait-monotrait ratio of correlations, CI: Confidence interval. Confidence intervals were estimated using 5,000 bootstrap resamples. PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention

resamples. The findings related to H_{1a}, H_{1b}, H_{2a}, H_{2b}, and H_3 are presented in Table 6, which includes standardized path coefficients, bootstrap standard errors, t-values, P-values, 95% bootstrap confidence intervals, effect size, and inner VIF.

Table 6 indicates that all five proposed direct relationships were positive and statistically significant, and moreover, none of the bootstrap confidence intervals contained zero. The strongest relation was between perceived anthropomorphism and parasocial interaction ($\beta = 0.499$, $P < 0.001$). Then, the next strongest effect was shown to be that between parasocial interaction and purchase intention ($\beta = 0.404$, $P < 0.001$). The effect sizes range from small to large (Cohen, 1988) with the highest size of effect found for the effect of perceived anthropomorphism on parasocial interaction ($f^2 = 0.365$). The inner VIF of the proposed relationships varied from 1.39 to 2.04 which excluded any concerns regarding collinearity. Thus, hypotheses H_{1a}, H_{1b}, H_{2a}, H_{2b}, and H_3 were found to be Supported (Cohen, 2013; Hair et al., 2019; O'brien, 2007).

Figure 2: Heatmap of the Heterotrait-Monotrait ratio of correlations ratios



6.5. Explanatory and Predictive Assessment

The explanatory power of the structural model was evaluated using R^2 and adjusted R^2, and its predictive relevance was assessed using PLSpredict (Shmueli et al., 2019), with results for parasocial interaction (PSI) and purchase intention (PI) reported in Table 7.

Table 7 shows that perceived authenticity and perceived anthropomorphism together explained 51.1% of variance in parasocial interaction ($R^2 = 0.511$, adjusted $R^2 = 0.503$), while perceived authenticity, perceived anthropomorphism and parasocial interaction explained 63.0% of variance in purchase intention ($R^2 = 0.630$, adjusted $R^2 = 0.621$). Based on (Chin, 1998) benchmarks, both endogenous constructs demonstrated moderate explanatory power. The adjusted R^2 values were close to the corresponding R^2 values, indicating limited shrinkage after accounting for the number of predictors.

All Q^2 predict values were positive for both constructs, with four positive values out of four indicators for each construct, supporting out-of-sample predictive relevance. Moreover, the PLS-SEM model produced lower RMSE values than the linear-model benchmark for three of the four indicators of each construct, or six of the eight indicators overall. These findings indicate medium predictive power for both parasocial interaction and purchase intention.

6.6. Indirect Relationships and Mediation Analysis

The mediating role of parasocial interaction was examined through the examination of two specific indirect effects outlined by H_{4a} and H_{4b}. As indicated in Table 8, the direct, indirect, and total effects were all presented with their 95% confidence intervals, and mediation decisions.

Table 8 shows that both indirect effects are positive as well as statistically significant, indicating that none of their bootstrap confidence intervals contained zero in it. Particularly, the indirect effect of perceived authenticity on purchase intention via parasocial interaction is significant (indirect effect = 0.126, P = 0.020); and similarly, the indirect effect of perceived anthropomorphism on purchase intention via parasocial interaction is also significant (indirect effect = 0.202; P < 0.001). The significance of both cases confirms that both direct and indirect effects are statistically significant, bringing forward the same sign indicating that there is a complementary partial mediation (Nitzl et al., 2016; Zhao et al., 2010). Thus, both H_{4a} and H_{4b} are supported demonstrating that the mediational hypothesis H_4 is confirmed empirically.

6.7. Final estimated PLS-SEM model

Figure 3 presents the final first-order PLS-SEM model shown in Figure 3 provides an overview of the estimated measurement and structural results. The outcomes presented here include standardized outer loading, structural path coefficient, significance levels, and explained variance of endogenous constructs.

Figure 3 shows that all the direct relations are positive and statistically significant. Perceived anthropomorphism had the strongest structural effect to parasocial interaction (β = 0.499) and it was found that parasocial interaction is positively related to purchase intention with β = 0.404. The model accounts for 51.1% variance in parasocial interaction and 63.0% variance in purchase intention.

6.8. Summary and Interpretation of Hypothesis Testing

The findings supported all the proposed direct and indirect hypotheses. Perceived authenticity had a positive and statistically significant effect on purchase intention, supporting H_{1a}. This finding indicates that consumers who perceive AI virtual influencers as genuine and credible are more likely to respond favorably to the products they promote. Perceived anthropomorphism also had a positive and statistically significant effect on purchase intention, supporting H_{1b}. This suggests that human-like characteristics in the appearance, communication, and behavior of AI virtual influencers may contribute to more favorable purchase responses. Accordingly, the broader hypothesis H_1 was supported.

Perceived authenticity had a positive and statistically significant effect on parasocial interaction, supporting H_{2a}. This result suggests that consumers are more likely to develop a sense of familiarity and connection with AI virtual influencers when they perceive them as authentic. Perceived anthropomorphism also had a positive and statistically significant effect on parasocial interaction, supporting

Table 6: Direct structural relationships and collinearity assessment

Hypothesis	Path	β	Bootstrap SE	t	P	CI lower	CI upper	f^2	Effect size	VIF	Decision
H_{1a}	PA→PI	0.244	0.089	2.728	0.006	0.075	0.424	0.101	Small	1.59	Supported
H_{1b}	PAN→PI	0.274	0.099	2.770	0.006	0.089	0.478	0.107	Small	1.90	Supported
H_{2a}	PA→PSI	0.311	0.097	3.209	0.001	0.120	0.500	0.142	Small	1.39	Supported
H_{2b}	PAN→PSI	0.499	0.091	5.498	<0.001	0.316	0.671	0.365	Large	1.39	Supported
H_3	PSI→PI	0.404	0.100	4.061	<0.001	0.191	0.583	0.216	Medium	2.04	Supported

β: Standardized path coefficient, SE: Bootstrap standard error, CI: Confidence interval, f^2: effect size, VIF: Variance inflation factor. Confidence intervals were estimated using 5,000 bootstrap resamples. PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention

Table 7: Explanatory power and predictive assessment of the endogenous constructs

Endogenous construct	R^2	Adjusted R^2	R^2 Assessment	Positive Q^2predict	PLS RMSE<LM RMSE	Predictive power
PSI	0.511	0.503	Moderate	4/4	3/4	Medium
PI	0.630	0.621	Moderate	4/4	3/4	Medium

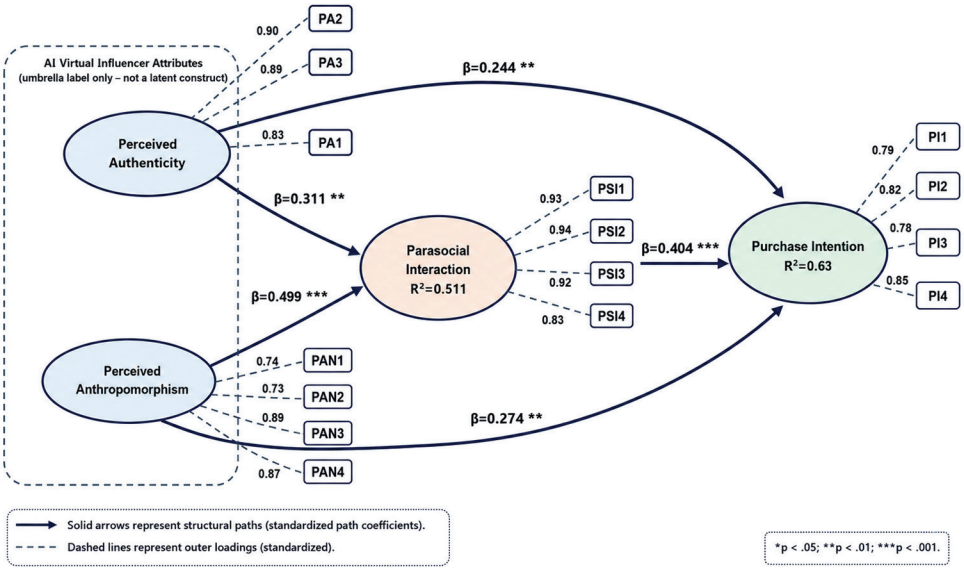
R^2: Coefficient of determination, Q^2predict: Indicator-level predictive relevance, RMSE: Root mean squared error, PLS: Partial least squares, LM: Linear-model benchmark, PSI: Parasocial interaction, PI: Purchase intention. PLSpredict was performed using 10-fold cross-validation with 10 repetitions and a fixed seed of 2025. R^2 values were classified as weak, moderate, or substantial, whereas predictive power was classified as low, medium, or high according to the comparison between PLS-SEM and LM prediction errors

Table 8: Specific indirect effects and mediation results

Hypothesis	Indirect_Path	Direct_ Effect	Indirect_ Effect	Total_ Effect	Bootstrap_ SE	t	p	CI_ Lower	CI_ Upper	Mediation_Type	Decision
H_{4a}	PA→PSI→PI	0.244	0.126	0.370	0.054	2.318	0.020	0.034	0.244	Complementary partial mediation	Supported
H_{4b}	PAN→PSI→PI	0.274	0.202	0.476	0.056	3.604	<0.001	0.093	0.310	Complementary partial mediation	Supported

SE: Bootstrap standard error, CI: Confidence interval were estimated using 5,000 bootstrap resamples. PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention

Figure 3: Final partial least squares structural equation modeling model results



Dashed lines represent standardized outer loadings, whereas solid arrows represent standardized structural path coefficients. R^2 values are reported within the endogenous constructs. PA: Perceived authenticity, PAN: Perceived anthropomorphism, PSI: Parasocial interaction, PI: Purchase intention. The term AI virtual influencer attributes is used as an overarching conceptual label and does not represent a separate latent construct. $P < 0.01$; $P < 0.001$

H_{2b}. This indicates that human-like characteristics may strengthen consumers' perceived social connection with AI virtual influencers. Therefore, the broader hypothesis H_2 was supported.

Parasocial interaction had a positive and statistically significant effect on purchase intention, supporting H_3. This finding indicates that consumers who feel more familiar with and connected to an AI virtual influencer are more likely to consider purchasing the products promoted by that influencer.

The mediation results supported both H_{4a} and H_{4b}. Parasocial interaction partially mediated the relationship between perceived authenticity and purchase intention, as well as the relationship between perceived anthropomorphism and purchase intention. This means that both attributes affected purchase intention through two pathways: A direct pathway and an indirect pathway operating through the parasocial connection developed with the AI virtual influencer. Parasocial interaction therefore represented an important, but not exclusive, mechanism linking AI virtual influencer attributes to purchase intention. Accordingly, the broader mediation hypothesis H_4 was also supported.

The predictive assessment provided additional evidence of the model's practical relevance. All Q^2predict values were positive for the indicators of both parasocial interaction and purchase intention, indicating out-of-sample predictive relevance. Moreover, the PLS-SEM model produced lower prediction errors than the linear-model benchmark for six of the eight indicators. These findings indicate that the model demonstrated medium predictive power for both endogenous constructs.

Overall, all the proposed hypotheses were supported. The findings indicate that perceived authenticity, perceived anthropomorphism, and parasocial interaction played meaningful roles in explaining consumers' purchase intention toward products promoted by AI virtual influencers. The PLSpredict results further showed that the model possessed medium out-of-sample predictive power.

7. DISCUSSION AND CONCLUSION

This study examined the effects of perceived authenticity and perceived anthropomorphism on consumers' purchase intention. The study also examined the mediating role of parasocial interaction on this relationship. The study findings showed strong empirical support for the proposed conceptual model, as all direct and indirect hypotheses were supported, concluding that perceived authenticity and anthropomorphism play a vital role in directly influencing purchase intention, and that parasocial interaction also plays an indirect role in mediating this relationship.

The findings from this study make significant theoretical contributions to the development of literature on AI virtual influencer marketing, parasocial interaction, and purchase intention. The study findings show that authenticity remains influential even when the influencer is virtual. With regards to anthropomorphism, the study provides empirical evidence that human-like characteristics increase consumers' purchase intentions. In addition, the study supports the application of parasocial interaction by showing that consumers can develop one-sided relationships with AI-generated virtual influencers. This interaction appears to facilitate stronger connections between the consumers and these digital personalities. Finally, by identifying parasocial interaction as a partial mediator, this study shows that psychological attachment represents an important mechanism through which AI virtual influencer characteristics shape consumer behaviors. The study findings also contribute to the PLS-SEM methodology as the established medium predictive power proves

that models based on virtual personas hold forecasting capabilities for purchase intentions.

The study also offers several practical implications for companies, marketers, brands, and virtual influencer developers. Since perceived authenticity impacts both parasocial interaction and purchase intention, companies need to prioritize creating virtual influencers that communicate and express brand values and engage consumers in ways that appear sincere and genuine. Marketers need to avoid promotional content that negatively affects consumers' perception of authenticity. Customizing the virtual influencer to the Egyptian taste is paramount to achieve high authenticity. This includes using the Egyptian Arabic dialect, localized storytelling, an Egyptian sense of humor, and aligning content with local values and seasons (e.g., local fashion, Ramadan, Easter). These actions will help build long-term credibility with followers.

The positive effect of anthropomorphism also implies that virtual influencer generators need to invest in developing realistic facial expressions, reactions, language, and human-like storytelling to strengthen consumers' engagement. As parasocial interaction was found to partially mediate the relationship between virtual influencers and consumer purchase intention, marketing strategies should focus not only on product promotion, but also on developing long-terms relationships with consumers and followers through frequent interaction, personalized communication, regular updates, and engaging content that encourages consumers' perception of the virtual influencer as a familiar person. An important point to take note of is the need to prioritize disclosing the nature of AI in generating virtual influencer content. This will help build trust and strengthen parasocial bonds between virtual influencers and followers. Collectively, these strategies are expected to enhance consumer engagement, purchase intention, and actual purchasing outcome.

Specifically in the context of Egypt, approximately 30% of the population belongs to Gen Z (born between 1997 and 2012), highlighting the country's exceptionally young demographic profile. Gen Z and Gen Alpha (2013-2024) together account for around 56% of the Egyptian population (United Nations, 2024). This implies the importance of this young generation as a key market segment. These generations spend considerable time browsing and shopping on social media platforms such as TikTok and Instagram. This necessitates a novel way of catering to their needs as customers navigating their way through digital platforms. The present findings suggest that innovative trends such as virtual influencers if developed in an appealing way that prioritizes authenticity and anthropomorphism, can in fact increase these young consumers' para-social bonding with such influencers, positively affecting their purchase intention and decisions. This can be a powerful tool for marketers and brands targeting young customers.

In conclusion, paying particular attention to authenticity and anthropomorphism in virtual influencers could provide brands with a strong competitive advantage in building meaningful consumer relationships and driving purchase intentions.

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