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“Mentor or Friend?” The Impact of Virtual Influencers’ Social Roles on Brand Endorsement

Abstract

Purpose – As virtual influencers (VIs) become increasingly prominent in digital marketing, understanding how their perceived roles shape consumer responses is critical. This research investigates how a VI’s social role (mentor vs. friend) influences brand attitude through psychological distance and examines the moderating effect of decisional guidance (suggestive vs. informative) on this process.

Design/methodology/approach – Two between-subject experimental studies (Study 1: N = 276; Study 2: N = 281) were conducted using samples recruited via Amazon Mechanical Turk to test the proposed hypotheses.

Findings – Study 1 shows that a VI’s mentor role leads to more favorable brand attitudes than a friend role, and that this effect is mediated by reduced psychological distance. Study 2 confirms the moderating effect of decisional guidance, showing that the effect of the mentor role on brand attitude is stronger when the endorsement message provides suggestive (vs. informative guidance).

Originality/value – This research highlights the strategic role of social role design in VI branding and extends understanding of how role-based and message-based cues shape consumer responses to VI endorsements. The findings offer practical insight into how brands can design VIs’ roles and endorsement messages to enhance communication effectiveness.

Keywords: Virtual influencers, Social role, Psychological distance, Decisional guidance (suggestive vs. informative), Brand attitude.

1. Introduction

The online marketplace has grown rapidly with the rise of virtual influencers (VIs), and VI-based marketing has become an increasingly important strategy for brand endorsement (Yoo *et al.*, 2025). VIs are computer-generated personas created through artificial intelligence (AI) technologies and often designed with human-like appearances or characteristics (Sharma and Kumar, 2026). The global VI market was valued at US\$6.06 billion in 2024 and is projected to reach US\$45.88 billion by 2030 (Grand View Research, 2025). As brands increasingly use VIs to strengthen brand visibility, enhance consumer engagement, and foster consumer purchase intention, understanding how consumers respond to VI endorsements has become an important issue in digital marketing research (Kim and Park, 2023; Ozdemir *et al.*, 2023).

A distinctive feature of VIs is that they are not merely digital endorsers, but also designed social agents. Unlike human influencers, whose personalities and communication styles are shaped by lived experience, VIs are strategically created, managed, and scripted by brand or creative teams (Sharma and Kumar, 2026). Their appearance, personality, and interaction styles can therefore be deliberately designed to fit brand objectives (Kozinets *et al.*, 2023; Ozdemir *et al.*, 2023). Prior research suggests that assigning social cues or social roles to AI agents can encourage consumers to respond to them as social actors, thereby shaping perceptions of relevance, credibility, and relationship quality (Li and Sung, 2021; Youn and Jin, 2021). In the VI context, such role design is especially important because VIs often adopt human-like personas, such as friends, mentors, or rebels, to simulate interpersonal relationships with followers (Gambetti and Kozinets, 2024).

Although research on VI effectiveness is growing, important gaps remain. First, existing literature has extensively examined the differences between VIs and real celebrities (Sands *et al.*, 2022), VI types (Miao *et al.*, 2022), and social interaction styles (Wu *et al.*, 2023) in shaping consumer responses. However, limited attention has been paid to the relational

functions that VIs serve, specifically, the social roles they enact as persuasive agents. This gap is important because VIs offer brands not only a controllable digital presence but also a unique opportunity to simulate interpersonal dynamics with consumers (Gambetti and Kozinets, 2024). While prior work has discussed VIs in relatively functional or task-oriented roles, brands are increasingly designing VIs with more socially engaging personas (Shen, 2025). In particular, mentor- and friend-oriented roles offer two distinct ways of structuring VI-consumer relationships (Rhee and Choi, 2020). The former emphasizes guidance and expertise, whereas the latter emphasizes shared experience and emotional connection (Liu *et al.*, 2024). Yet, it remains unclear how these role frames influence consumers' responses to VI brand endorsements. Building on this distinction, the current study examines how mentor-versus friend-oriented VI roles shape consumers' attitudes toward brand endorsements. Unpacking the effects of these social roles advances understanding of how VIs' role design can be strategically leveraged to enhance brand endorsement effectiveness.

A second research gap concerns the psychological mechanism through which VIs' social role influences brand attitude. Because social roles structure consumers' expectations about the VI and its relationship with followers, they may shape whether a VI is perceived as psychologically close or distant (Ahn *et al.*, 2021). Psychological distance refers to consumers' subjective perception of how close or distant an entity feels from the self (Trope and Liberman, 2010). From the perspective of construal level theory (Trope and Liberman, 2010), social cues, anthropomorphism, and parasocial interaction can reduce psychological distance between consumers and AI agents, thereby improving consumer responses (Li and Sung, 2021). However, in VI endorsement contexts, it remains unclear how different social roles shape perceived psychological distance. This issue is important because mentor- and friend-oriented roles may create varying degrees of closeness between the VI and consumers, helping to explain why one role may be more effective than another in shaping brand

attitudes. Therefore, this study examines psychological distance as a key mediator explaining how VIs' social roles influence brand attitudes.

A third research issue concerns whether the effect of VIs' social roles depends on the type of decisional guidance used in the endorsement message. Decisional guidance can be classified into two forms: suggestive guidance, which provides clear advice or recommendations, and informative guidance, which provides relevant information without directly recommending a choice (Chen *et al.*, 2021). This distinction is important because endorsement effectiveness depends not only on how the VI is socially positioned, but also on how the message supports consumers' evaluation of the endorsed brand. For suggestive guidance, followers tend to focus on professional product knowledge and objective attributes (Morana *et al.*, 2014). In contrast, for informative guidance, followers are more likely to prioritize information-sharing experiences and to collect a variety of product information solutions (Morana *et al.*, 2014). Therefore, this study examines decisional guidance as a boundary condition that shapes when VIs' social roles are more effective in enhancing consumers' brand attitudes.

Taken together, these gaps indicate the need to examine whether and how VIs' social roles shape brand attitude, and to identify the underlying mechanism and boundary condition of this relationship. Therefore, this study attempts to answer the following research questions (RQ):

RQ1. How does a VI's social role influence consumers' brand attitude?

RQ2. How does psychological distance mediate the impacts of VI's social role on brand attitude?

RQ3. How does decisional guidance moderate the impacts of VI's social role on psychological distance and brand attitude?

This study contributes to the literature on interactive marketing, VI branding, and digital

endorsement in several ways. First, it shifts attention from general VI attributes to social role design. By distinguishing between mentor-oriented and friend-oriented roles, this study shows how role-based expectations shape consumer responses to VI endorsements. Second, this study highlights psychological distance as a key mediating mechanism that explains how VIs' social roles influence brand attitudes. Third, the current research identifies decisional guidance as a boundary condition, showing that the effectiveness of VIs' social roles depends on the alignment between role framing and message strategy. Practically, the findings provide brand operators with actionable guidance for designing VIs' social roles and for posting content to improve endorsement effectiveness.

2. Literature review and hypotheses development

2.1. The social role of virtual influencers and their effects on brand attitude

A digital agent is a computer-generated graphical entity that represents a fictional character or a real human being, controlled by AI (Rehman *et al.*, 2026). In the influencer context, some studies discuss the characteristics of VIs, with the most common types being AI influencers and computer-generated imagery influencers. VIs are digitally rendered characters that can imitate human appearance, display anthropomorphic features, and interact with social media audiences (Miao *et al.*, 2022). Unlike traditional human influencers, VIs can be strategically designed with specific visual features, personalities, and communication styles (Yin *et al.*, 2026). When endowed with human-like emotions and narratives, they can attract and retain followers through emotional sharing and social interaction (Mirowska and Arsenyan, 2023).

According to social response theory, assigning social roles to computer technologies can elicit social responses from consumers toward agents or social actors (Miao *et al.*, 2022). VIs not only emulate human-like characteristics but also express distinct personalities through their posts and interactions with social media audiences. From the social role theory perspective, a role refers to shared and normative expectations that guide behavior within a

social position (Biddle, 1986). Social roles are critical because they establish rights, obligations, norms, and behaviors associated with individuals holding a specific social position (Song *et al.*, 2026). However, social roles assigned to agents have received limited attention as inherent attributes in prior research (Rhee and Choi, 2020). Existing studies have mainly discussed roles such as virtual assistants or virtual friends, often through anthropomorphism or relationship types (Youn and Jin, 2021).

In live e-commerce literature, Liu *et al.* (2024) conceptualized livestream hosts as either mentors or partners. Mentors guide consumers by providing task-related knowledge and experience, whereas partners emphasize emotional connection and shared feeling. Similarly, Wu *et al.* (2023) found that social role functions as an effective social cue, suggesting that virtual streamers can be strategically designed to enact partner- or friend-like roles. Brands and AI-representing brands can play distinct roles in the consumer-brand relationship. When a brand is perceived as fulfilling consumers' needs, it can act as an assistant (Kim and Kramer, 2015). Alternatively, when a brand takes on the role of a friend, it fosters a lasting relationship with consumers (Song *et al.*, 2026; Youn and Jin, 2021).

Building on these insights, this study focuses on two social roles of VIs: mentor-oriented and friend-oriented roles. In the mentor-oriented role, VIs position themselves as mentors in specific domains, guiding followers to acquire product-related knowledge and skills. Followers, in turn, enhance their understanding and proficiency in specific products. When VIs adopt a friend-oriented role, they see themselves as friends of their followers, emphasizing communication and sharing within the group. To build a sense of connection with followers, VIs use a symbolic, friendly tone to share information or provide tips (Li and Sung, 2021). As followers interact with VIs' content, they rely on communication cues associated with a specific social role to understand the VI and the dynamics of their relationship.

From a brand endorsement perspective, the mentor role is expected to be more effective than the friend role. Brand attitudes often stem from cognitive evaluations of the brand's competence, value, and credibility. When a VI adopts a mentor role, it signals expertise, goal relevance, and informational utility, all of which are central to persuasive communication in decision-making contexts (Nazir and Wani, 2025). These cues encourage consumers to view the message as diagnostic, increasing trust in the VI and favorability toward the brand. By contrast, the friend role emphasizes warmth and likability, but may provide fewer cues related to product competence or decision usefulness. Although this role may foster engagement or perceived closeness, it may lack the epistemic depth needed to support strong brand evaluations, especially for product-related decisions. Prior studies in live commerce and human-AI interaction have found that consumers perceive task-oriented roles (e.g., expert, advisor, mentor) as more persuasive when evaluating branded content or making product-related decisions (Liu *et al.*, 2024; Wu *et al.*, 2023). Based on these elaborations, we propose that:

H1: A virtual influencer in a mentor role (vs. a friend role) will lead to a more favorable brand attitude.

2.2. The mediation effect of psychological distance

Psychological distance refers to the subjective experience of how close or far someone or something is to oneself (Trope and Liberman, 2010). It includes spatial, temporal, and social dimensions (Liberman and Trope, 2014). Among these, social distance reflects an individual's perceived separation from others or groups, manifesting in forms such as self-versus others, similarity versus difference, and in-group versus out-group distinctions (social categorization). In the present research, psychological distance is understood as the extent to which consumers perceive the VI as psychologically close or distant from themselves in the endorsement context.

Prior research shows that when a non-human entity is anthropomorphized or assigned a social role, perceived distance may decrease (Chen *et al.*, 2024; Huang and Chung, 2025). Because people generally respond more favorably to those they perceive as psychologically close, reduced psychological distance may explain why social roles influence consumer responses to VIs (Choi *et al.*, 2023; Li and Sung, 2021). In the present context, both mentor and friend roles are social roles, but they evoke different relational expectations. Friend-oriented VIs emphasize casual conversation and emotional warmth, which may foster familiarity but provide less goal-directed value. In contrast, a mentor-oriented VI conveys authority, guidance, and purposeful assistance. From a construal level perspective, mentor roles offer instrumental relevance by helping consumers achieve decision goals, thereby making the VI seem more psychologically close, useful, and invested in the consumer's experience. This distinction is supported by recent work on human–AI and influencer interactions, which shows that communicative roles emphasizing advice-giving, expertise, and personal relevance reduce perceived distance more effectively than roles grounded in informal rapport (Li and Sung, 2021; Youn and Jin, 2021). Thus, the mentor role is expected to reduce psychological distance more strongly because it encourages consumers to view the VI as an involved and competent contributor to decision-making.

Moreover, reduced psychological distance is likely to enhance brand attitude because consumers perceive the influencer-brand pairing as more relevant and trustworthy (Ahn *et al.*, 2021). When consumers feel close to the VI, they are more inclined to internalize the VI's message and respond favorably to the endorsed brand (Kim and Park, 2023). Thus, psychological distance provides a mediating pathway through which role framing translates into brand evaluation. Based on this logic, we propose that:

H2: Psychological distance will mediate the relationship between a VI's social role and consumers' brand attitude, such that a VI in a mentor role (vs. a friend role) will reduce

psychological distance, which in turn enhances consumers' brand attitude.

2.3. The moderating effect of decisional guidance: suggestive vs. informative

Message strategies on social media can shape how consumers process endorsement content and evaluate brands (Nazir and Wani, 2025). Prior research suggests that different post formats, such as informational and storytelling posts, influence how consumers assess message credibility, authenticity, and product relevance (Gadekar *et al.*, 2025). In VI endorsement contexts, this issue is particularly important because brands can strategically control both the VI's social role and the message style conveyed in the post. Following Morana *et al.* (2014), this study categorizes the decision-guidance strategies for VIs' brand post content into two forms: suggestive guidance and informative guidance. Suggestive guidance refers to explicit recommendations or advice that help consumers advance their decision-making process, thereby reducing decision effort. Informative guidance provides relevant product information to improve consumers' understanding without directly recommending a specific choice (Morana *et al.*, 2014).

Prior studies show that decisional guidance formats can affect consumers' search tasks, cognitive alignment, and decision processes (Chen *et al.*, 2021; Hardin *et al.*, 2017). In this study, the effectiveness of the VI's enacted social role may be amplified by decisional guidance type. A mentor-oriented VI is expected to be more persuasive when paired with suggestive guidance because both emphasize expertise, direction, and decision support. This role-guidance alignment may make the endorsement appear more coherent, useful, and credible (Chen *et al.*, 2021), thereby enhancing brand attitude. By contrast, informative guidance provides product information without an explicit recommendation, which may reduce the distinct advantage of the mentor role. Because psychological distance captures how close or distant consumers feel toward the VI, decisional guidance may also condition the indirect pathway through which VI role framing influences brand attitude. Based on these

elaborations, we propose:

H3a: Decisional guidance type will moderate the impact of VIs' social roles on brand attitude, such that a VI in a mentor role (vs. a friend role) will lead to higher brand attitudes when using a suggestive guidance post (vs. an informative guidance post).

H3b: Decisional guidance type moderates the indirect effect of VIs' social roles on brand attitudes via the mediation of psychological distance.

The research model is shown in Figure 1 – Theoretical framework. This research employs VIs' Instagram posts via two experimental studies. Study 1 examines the effects of the VIs' social roles on consumers' brand attitude and the mediating effect of psychological distance. Study 2 examines whether decisional guidance moderates the impacts of VIs' social roles on brand attitude and psychological distance.

[Figure 1 here]

3. Study 1

3.1. Experiment stimulus: VIs' selection and posts

We chose the Instagram account of a female VI, Lil Miquela, who has two million followers, to design the experiment. Lil Miquela was selected because (1) she is frequently cited in previous VI research (Mirowska and Arsenyan, 2023); (2) she is known on Instagram for garnering huge attention and is often invited by global brands and advertisers; and (3) she ranks among the top VIs discussed in prior research (Li *et al.*, 2023). Furthermore, BMW was selected as the endorsed brand because automobiles represent a familiar and high-involvement product category with multiple evaluative attributes, making it suitable for examining consumers' brand attitudes in a VI endorsement context (Bi and Zhang, 2023).

To distinguish two different VIs' social roles (i.e., mentor vs. friend), we manipulated the tone and wording of Lil Miquela's Instagram brand posts (Li *et al.*, 2023; Youn and Jin, 2021).

To minimize discrepancies between the two conditions, the same VI, endorsed brand and product, Instagram post format, and overall visual layout were used. Both conditions presented the BMW iX2 within the same automobile endorsement context. However, because the two roles were designed to reflect distinct communication styles, information richness and message length differed across conditions. Specifically, the friend- and mentor-role posts contained approximately 58 and 78 words, respectively (see Appendix 1). In the friend-role condition, Lil Miquela uses “Hi! Dear friends” at the beginning of a post and uses casual, informal, and experience-based language to describe the car (e.g., “I want to share with you”, “The car is quite comfortable to drive”). Emojis were also included to reinforce a friendly and socially close communication style. In the mentor-role condition, Lil Miquela is introduced as a “professional car mentor” at the beginning of a post, and the post uses more formal, professional, and product-focused language (e.g., “The car has an adaptive suspension system”, “The car has an advanced autonomous driving assistance system”).

3.2. Participants and procedure

An a priori power analysis was conducted using G*Power to estimate the minimum sample size required for the main study. The analysis was specified for an ANOVA test, assuming a medium effect size of 0.25, statistical power of 0.80 ($1 - \beta$), and a significance level of $\alpha = 0.05$. The results indicated that at least 128 participants were required.

This study initially recruited 441 participants in September 2024 from Amazon Mechanical Turk (MTurk). MTurk is a widely used platform among scholars due to its high-quality responses and the naïve anonymity of its respondents (Yoo *et al.*, 2025). Each participant received one dollar for completing the questionnaire. Two screening questions were used to screen the participants, including (1) “Have you ever heard of virtual influencers?” and (2) “Were you previously familiar with Lil Miquela?” Only participants who answered “yes” to both questions were included in the final sample. Moreover, following

the recommended validation practices for MTurk studies (Hulland and Miller, 2018), we further excluded responses with excessively short completion times (i.e. less than 5 minutes) and uniform response patterns (i.e. providing identical answers across all items). After these exclusions, 276 valid responses were retained for analysis (36.6% female, $M_{\text{age}} = 31.36$, $SD_{\text{age}} = 1.03$), which is far above the minimum required sample of 128 responses. Participants were then randomly assigned to one of two experimental conditions: mentor role ($n = 140$) or friend role ($n = 136$). We also executed a randomization check for this study. The chi-square test indicates that the differences in the number of participants assigned to each condition were not significant ($p > 0.05$).

Participants were first informed about the study's purpose and their privacy rights, and only those who provided informed consent were allowed to participate. Next, participants were asked to identify the VI's name from multiple-choice options. Those who answered correctly were directed to the experimental URL link featuring the VI's brand-endorsed post. After viewing the post corresponding to their assigned experimental condition, they answered questions for psychological distance, brand attitude, demographic information, and manipulation check. An attention check was also included by asking participants to enter the brand name mentioned in the post.

3.3. Measures

The measurement items were adapted from prior research (see the Supplementary material appendix). Accordingly, *psychological distance* was measured using three items adapted from Li and Sung (2021), with higher scores indicating greater perceived distance. *Brand attitude* was measured using five items from Ozdemir *et al.* (2023). To check the manipulation for VIs' social role, two items adapted from Youn and Jin (2021) were used: (1) "I feel like this VI is like a friend and makes me feel very comfortable," and (2) "I think this VI is like a mentor, as she shares a lot of information." All items were measured on a seven-point Likert scale (1 =

strongly disagree, 7 = strongly agree).

A confirmatory factor analysis (CFA) was conducted to evaluate the reliability and validity of the key measured constructs. The results indicated that the factor loadings and composite reliability values were higher than 0.70, and average variance extracted (AVE) values were higher than 0.50, supporting the reliability and convergent validity of the measures (Hair *et al.*, 2021) (see the Supplementary material appendix).

3.4. Results

3.4.1. Manipulation checks

The independent sample *t*-test results showed significant differences between the two experimental conditions ($t(274) = 2.823, p < 0.01, M_{\text{friend}} = 5.82 > M_{\text{mentor}} = 5.44$ for the first question; $t(274) = 2.015, p < 0.05, M_{\text{mentor}} = 5.89 > M_{\text{friend}} = 5.68$ for the second question). These results indicate that participants correctly perceived the intended VI's social role, confirming the effectiveness of the manipulation.

3.4.2. Testing of hypotheses

We conducted a one-way ANOVA to test H1. The results showed a significant effect of VI's social role on brand attitude ($F(1, 274) = 4.361, p < 0.05, \text{partial } \eta^2 = 0.016$). As predicted, participants in the mentor-role condition reported a more favorable brand attitude ($M_{\text{mentor}} = 5.946, SD = 0.579$) than in the friend-role condition ($M_{\text{friend}} = 5.785, SD = 0.693$). Thus, H1 is supported.

A mediation analysis was conducted using PROCESS macro - Model 4 (Hayes, 2022) with 5,000 bootstrapped samples to test the mediating role of psychological distance. VI's social role was entered as the independent variable and coded as mentor = 0 and friend = 1. Psychological distance was entered as the mediator, with higher scores indicating greater perceived distance.

The results (see Table 1 and Figure 2) showed that VI's social role had a significant and

positive direct effect on psychological distance ($\beta = 0.171$, $SE = 0.087$, $t = 1.978$, $p < 0.05$, 95% CI = [0.001, 0.342]), indicating that participants in the friend-role condition perceived greater psychological distance than those in the mentor-role condition. Additionally, psychological distance had a significant negative effect on brand attitude ($\beta = -0.389$, $SE = 0.049$, $t = 8.003$, $p < 0.001$, 95% CI = [-0.485, -0.293]). This means that participants who felt more psychologically distant from the VI had a less favorable attitude toward the brand. The indirect effect of VI's social role on brand attitude through psychological distance was also significant ($\beta = -0.067$, $SE = 0.033$, 95% CI = [-0.132, -0.002]). These findings indicate that, compared with the friend role, the mentor role reduced psychological distance, which subsequently enhanced brand attitude. Therefore, H2 was supported.

[Table 1 here]

[Figure 2 here]

4. Study 2

4.1. Experiment stimulus

Study 2 employed a 2 (VI's social role: mentor vs. friend) $\times$ 2 (decisional guidance: suggestive guidance vs. informative guidance) between-subjects experimental design. The same VI used in Study 1, Lil Miquela, was retained as the stimulus to ensure consistency across studies. Drawing on Chen *et al.*'s (2021) conceptualization of decisional guidance, we manipulated the content of the VIs' endorsement message to create suggestive and informative guidance conditions. In the suggestive guidance condition, Lil Miquela provided followers with specific recommendations on selecting car models and performance options (e.g., "I highly recommend this car model"). In the informative guidance condition, Lil Miquela provided followers with very clear car information without suggesting any specific car models (e.g., "I researched many car brands and models"). Crossing the two VI's social role conditions with the two decisional guidance conditions resulted in four experimental stimuli

(see Appendix 2).

4.2. Participants and procedure

Study 2 initially recruited 351 participants through MTurk in October 2024. The screening and exclusion criteria were consistent with those used in Study 1. After excluding invalid responses, 281 eligible participants were retained for analysis (35.9% female, $M_{\text{age}} = 31.44$, $SD_{\text{age}} = 1.12$). They were randomly assigned to one of the four experimental conditions: group 1: mentor role and suggestive guidance ($n = 68$), group 2: mentor role and informative guidance ($n = 72$), group 3: friend role and suggestive guidance ($n = 67$), and group 4: friend role and informative guidance ($n = 74$). We also executed a randomization check for this study. Chi-square test reveals that the differences in the number of participants assigned to each condition were not significant ($p > 0.05$).

Participants were first informed about the study objectives and privacy rights, and only those who provided written informed consent were allowed to participate. Next, participants were asked to identify the VI's name from multiple-choice options. Those who answered correctly were directed to the experimental stimulus featuring the VI's brand-endorsed content. After that, participants were asked to view the post corresponding to their assigned experimental condition. After viewing the stimulus, they answered the questions for psychological distance, brand attitude, demographic information, and manipulation checks. An attention-check question was also included by asking participants to enter the brand name shown in the post.

4.3. Measures

The measures for psychological distance and brand attitude were adopted from Study 1. The manipulation for VI's social role was checked using the same two items as in Study 1. Furthermore, to assess the decisional guidance manipulation, two items adapted from Chen *et al.* (2021) were used: (1) "The VI clearly recommended the product I should choose," and (2)

“The VI only listed product information and did not clearly suggest what product I should choose.” All measurement items and manipulation-check items were measured on a seven-point Likert scale.

Similar to Study 1, a CFA was conducted to evaluate the reliability and validity of the key measured constructs. The CFA analysis results confirmed the reliability and convergent validity of psychological distance and brand attitude (see the Supplementary material appendix).

4.4. Results

4.4.1. Manipulation checks

Two independent-samples *t*-tests were conducted to examine whether the experimental manipulations were perceived as intended. For the VI’s social role manipulation, the first *t*-test showed significant differences between mentor-role condition and friend-role condition ($t(279) = 2.203, p < 0.001, M_{\text{friend}} = 5.83 > M_{\text{mentor}} = 5.43$ for the first question; $t(279) = 2.985, p < 0.05, M_{\text{mentor}} = 5.90 > M_{\text{friend}} = 5.67$ for the second question). For the decisional guidance manipulation, the second *t*-test showed a significant difference between suggestive and informative guidance conditions ($t(279) = 4.157, p < 0.001, M_{\text{suggestive}} = 5.90 > M_{\text{informative}} = 5.42$ for the first question; $t(279) = 3.847, p < 0.001, M_{\text{informative}} = 5.72 > M_{\text{suggestive}} = 5.18$ for the second question). These results confirm that both the VI’s social role and decisional guidance manipulations were successful.

4.4.2. Testing of hypotheses

A two-way ANOVA was conducted to test hypothesis H3. The results (see Table 2) showed a significant interaction effect between VI’s social role and decisional guidance on brand attitude ($F(1, 277) = 5.355, p < 0.05$). Simple-effect analysis (see Figure 4) further showed that, under the suggestive guidance condition, participants reported more favorable brand attitudes when the VI adopted a mentor role (vs. a friend role) ($M_{\text{mentor}} = 6.037, SD = 0.589$;

$M_{\text{friend}} = 5.703$, $SD = 0.778$; $F(1, 134) = 7.605$, $p < 0.01$). Thus, H3a is supported.

To test H3b, we used the PROCESS macro Model 8 (Hayes, 2017) with 5,000 bootstrapped samples. VI's social role was entered as the independent variable (mentor = 0, friend = 1), decisional guidance as the moderator (suggestive = 0, informative = 1), psychological distance as the mediator, and brand attitude as the dependent variable. Higher psychological distance scores indicated greater perceived distance from the VI.

As shown in Table 2 and Figure 3, decisional guidance significantly moderated the effects of VI's social role on brand attitude ($\beta = 0.346$, $SE = 0.142$, $t = 2.434$, $p < 0.05$) and on psychological distance ($\beta = -0.379$, $SE = 0.165$, $t = 2.302$, $p < 0.05$). Additionally, psychological distance had a significant negative effect on brand attitude ($\beta = -0.396$, $SE = 0.051$, $t = 7.725$, $p < 0.001$). The index of moderated mediation was significant (index = 0.150, $SE = 0.069$, 95% CI = [0.023, 0.298]). This result indicates that the indirect effect of VI's social role on brand attitude through psychological distance differed across decisional guidance conditions. Specifically, the indirect effect was significant under suggestive guidance ($\beta = 0.141$, $SE = 0.051$, 95% CI = [0.050, 0.247]), but not under informative guidance ($\beta = -0.009$, $SE = 0.045$, 95% CI = [-0.097, 0.077]). Therefore, H3b is supported.

[Table 2 here]

[Figure 3 here]

[Figure 4 here]

5. Discussion and implications

5.1. General discussion

Across both studies, consumers evaluated brand endorsements more favorably when a VI adopted a mentor role rather than a friend role. This pattern suggests that the persuasive value of a VI role depends on the evaluative task consumers face. In the present context, the endorsed product was an automobile, a high-involvement category in which consumers are

likely to attend to product knowledge, decision support, and credible guidance (Bi and Zhang, 2023; Liu *et al.*, 2024). Although a friend role may create warmth, informality, and sociability (Song *et al.*, 2026), these cues may be insufficient when consumers are evaluating product merits. By contrast, the mentor role provides a clearer basis for brand evaluation because it positions the VI as a source of relevant knowledge and guidance (Liu *et al.*, 2024). Thus, the advantage of the mentor role should be understood not simply as a preference for competence over warmth, but as a better fit between the VI's enacted role and the consumer's decision task.

A notable finding is that the VI's mentor role reduced psychological distance more than its friend role did, thereby enhancing brand attitude. This finding appears to differ from prior research, which generally suggests that friend-like roles reduce distance through warmth, familiarity, and interpersonal connection (Bi and Zhang, 2023; Xie *et al.*, 2023). This finding can be better understood by distinguishing between affective closeness and functional closeness. Friend-oriented VIs primarily foster affective closeness by satisfying consumers' social and emotional needs through companionship, intimacy, and encouragement, whereas mentor-oriented VIs foster functional closeness by providing expertise, guidance, and decision support (Song *et al.*, 2026; Youn and Jin, 2021). Although both forms of closeness strengthen consumer-VI relationships, they may not reduce psychological distance to the same extent. From a construal-level perspective, psychological distance is reduced when an interaction becomes more personally relevant and actionable (Trope and Liberman, 2010). Functional closeness may therefore create a stronger sense of immediacy because mentor-oriented VIs directly assist consumers in achieving goals and making decisions, making the interaction feel more applicable to one's current situation (Song *et al.*, 2026). By contrast, affective closeness primarily strengthens emotional attachment and social bonding without necessarily increasing the perceived relevance of the interaction for goal-directed behavior (Liu *et al.*, 2024). This

distinction helps explain why the mentor role reduced psychological distance more strongly than the friend role. Although friendship cues are generally expected to create interpersonal closeness through warmth and familiarity (Bi and Zhang, 2023; Xie *et al.*, 2023), the expertise and guidance provided by mentor-oriented VIs may generate a more immediate and practically relevant form of closeness, thereby producing a stronger reduction in psychological distance.

The moderating effect of decisional guidance in Study 2 further clarifies this interpretation. Suggestive guidance strengthens the effect of the mentor role because both convey advice, direction, and decision support. When a mentor-oriented VI provides explicit recommendations, the role and message style reinforce each other, making the endorsement appear more coherent, useful, and evaluatively relevant (Chen *et al.*, 2021). Informative guidance, by contrast, provides product details without an explicit advisory function. Although such information may still support brand evaluation, it does not fully activate the mentor role's distinctive value as a guide. A mentor identity becomes more persuasive when the endorsement message allows the VI to enact the advisory function implied by that identity.

It is worth mentioning that the findings should also be understood within the specific endorsement context of this study. Because the endorsed brand was an automobile, a high-involvement product, consumers were likely to place greater weight on expertise, product information, and decision support (Shabani Shojaei and Barbosa, 2026). This context may therefore have strengthened the relative advantage of the mentor role. More broadly, mentor-oriented VIs may be particularly effective for high-involvement, expertise-based, or utilitarian products, where consumers require diagnostic information and guidance to evaluate alternatives (Liu *et al.*, 2024). The text-and-image Instagram post format may also have made verbal framing and informational cues more salient than in more interactive formats (e.g., short videos, livestreaming, or virtual environments) where friend-oriented VIs may better

convey warmth, spontaneity, and parasocial connection. Therefore, the friend role should not be regarded as universally inferior to the mentor role, such that friend-oriented VIs may be more effective for hedonic or low-involvement products (Xie *et al.*, 2023).

5.2. Theoretical implications

First, this study extends VI research by shifting attention from general influencer attributes to role-based functions. Prior studies have primarily focused on investigating attributes such as gender or personality of VIs in influencing consumers' attitudes and behavioral intentions (Gambetti and Kozinets, 2024; Liu *et al.*, 2026). While these works have advanced understanding of how consumers respond to VI features, less attention has been paid to the social roles that VIs enact in brand endorsement. By distinguishing between mentor-oriented and friend-oriented roles, this study conceptualizes VIs not only as digital endorsers with human-like attributes but also as role-performing agents whose communicative functional structures shape consumer understanding. This perspective refines the existing VI literature by showing that consumer responses are not solely driven by perceived anthropomorphism or human-like appearance, but also by role-based expectations that shape how VI communication is interpreted and evaluated. In doing so, this study extends social role theory to the VI context and provides a theoretical basis for explaining how expectations of guidance, expertise, warmth, and relational connection shape consumer responses to VI endorsements.

Second, this study advances the psychological distance literature by clarifying how VIs' social roles shape consumers' perceived distance from a virtual endorser. Prior research often associates reduced psychological distance with warmth, familiarity, anthropomorphism, and parasocial connection (Li and Sung, 2021; Youn and Jin, 2021). By showing that a VI in a mentor role (vs. a friend role) can reduce psychological distance, this study offers a more nuanced account of this mechanism in VI endorsement. Specifically, psychological distance should not be understood only as an affective-relational response based on warmth, similarity,

or social bonding. It may also reflect a functional-evaluative response, whereby consumers perceive a VI as psychologically closer because it is useful, relevant, and supportive of brand evaluation, especially for high-involvement products requiring information processing and evaluative support. In doing so, this study extends the construal-level theory by suggesting that psychological distance can be reduced through functional closeness in the VI endorsement contexts.

Third, this study contributes to research on VI endorsement strategy by introducing decisional guidance as a boundary condition linking social role design to consumers' brand attitude. While prior research has examined boundary conditions such as product type (Chen *et al.*, 2024; Liu *et al.*, 2024), ideological perspectives (Youn and Jin, 2021), and consumer characteristics (Crolic *et al.*, 2022), less attention has been paid to how message design interacts with the social role enacted by a VI. This study addresses this gap by highlighting decisional guidance as an important message-level boundary condition. More importantly, it advances a role-message fit perspective, suggesting that VI effectiveness depends not only on the social role assigned to the influencer, but also on whether the endorsement message allows that role to be enacted in a meaningful and persuasive way.

5.3. Practical implications

This research offers practical insights for marketers, brand managers, and VI developers seeking to use VIs in brand endorsement, particularly in Asia-Pacific markets where digital branding, influencer communication, and platform-based consumer engagement are increasingly prominent. First, the findings suggest that social role design should be treated as a strategic branding decision. In high-involvement endorsement contexts, such as the automobile setting examined in this study, brands may benefit from positioning VIs as mentor-like endorsers. Rather than presenting the VI mainly as a friendly peer, marketers can design the VI to provide product knowledge, credible guidance, and decision-relevant

information. Practically, this means that VI profiles, captions, and endorsement scripts should emphasize explanations and evaluative support. For example, a mentor-oriented VI could explain key product attributes, clarify usage benefits, compare product options, and provide recommendation rationales rather than merely expressing personal preference or excitement.

Second, marketers should consider psychological distance when designing VI personas and communication styles. Rather than relying only on warmth, informality, or emotional appeal, brands can reduce consumers' perceived distance from a VI by making the VI appear useful, relevant, and supportive of brand evaluation. To achieve this, VI developers should build role-consistent backstories, communication styles, and content themes. For instance, a mentor-oriented VI should be presented as knowledgeable in a specific domain and use clear explanatory language that conveys expertise, clarity, and guidance, while maintaining an engaging and approachable tone.

Third, brands should align the VI role design with the endorsement message strategy. In this study, the mentor role was more effective when paired with suggestive guidance. This implies that when a VI is positioned as a mentor, the endorsement message should allow the VI to enact an advisory function. Clear recommendations, product explanations, and decision-supportive cues can make the role and message mutually reinforcing. By contrast, if the post only lists general product information, the distinctive value of the mentor role may become less salient. This alignment is especially important when the endorsement aims to strengthen brand attitude through product expertise, decision support, and perceived relevance.

6. Limitations and future directions

First, this study used Lil Miquela as the VI stimulus and BMW as the endorsed brand.

Although Lil Miquela is widely recognized in VI research, her popularity, anthropomorphic design, and existing persona may have influenced participants' responses. Future studies could examine different types of VIs and compare real versus fictitious brands. Given that BMW

represents a high-involvement product context, future studies could compare real versus fictitious brands and examine whether the effects differ across product categories, such as utilitarian versus hedonic products.

Second, the manipulation of the VI social role was embedded in the wording and content of the endorsement posts. Although this approach reflects how mentor- and friend-oriented VIs may naturally communicate in practice, it may also make it difficult to fully separate role cues from other message features, such as the degree of product detail or experiential framing. Future research could adopt more controlled stimulus designs by keeping product information constant while varying only the role label, communication tone, or relational framing. This would allow researchers to more precisely isolate the effect of VI social role on consumers' responses.

Third, future research could conduct field experiments on actual Instagram accounts to improve external validity and examine real behavioral outcomes such as likes, comments, shares, click-throughs, or following behavior. Future studies could also examine whether the effects generalize to more interactive platforms, such as livestreaming, short-video platforms, or metaverse environments, where social presence, real-time interaction, and parasocial connection may be stronger.

Fourth, the study relied on MTurk participants, which may somewhat limit the cultural generalizability of the findings. Future research could replicate the model using samples from different countries or regions to examine whether the effectiveness of mentor- versus friend-oriented VIs varies across cultural settings.

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Table 1. Results of mediation analyses (n = 276) – Study 1

Paths	β	SE	t-value	p-value	95% CI
VI social role $\rightarrow$ Brand attitude	-0.228	0.070	3.249	$p < 0.01$	[-0.366, -0.089]
VI social role $\rightarrow$ Psychological distance	0.171	0.087	1.978	$p < 0.05$	[0.001, 0.342]
Psychological distance $\rightarrow$ Brand attitude	-0.389	0.049	8.003	$p < 0.001$	[-0.485, -0.293]
Indirect effect	-0.067	0.033			[-0.132, -0.002]

Notes: β = coefficient, SE = standard error, LLCI = lower limit confidence interval, ULCI = upper limit confidence interval.

(Source: Authors' own work)

Table 2. Results of moderated mediation analysis (n = 281) – Study 2

	β	SE	t-value	p-value	95% CI
DV: Brand attitude					
VI social role	-0.376	0.106	3.563	$p < 0.001$	[-0.584, -0.168]
Psychological distance	-0.396	0.051	7.725	$p < 0.001$	[-0.497, -0.295]
Decisional guidance	-0.139	0.106	1.312	$p > 0.05$	[-0.348, 0.069]
VI social role $\times$ Decisional guidance	0.346	0.142	2.434	$p < 0.05$	[0.066, 0.625]
DV: Psychological distance					
VI social role	0.357	0.122	2.930	$p < 0.01$	[0.117, 0.596]
Decisional guidance	0.294	0.123	2.392	$p < 0.05$	[0.052, 0.536]
VI social role $\times$ Decisional guidance	-0.379	0.165	2.302	$p < 0.05$	[-0.703, -0.055]
Conditional direct effect: virtual influencer social role $\rightarrow$ brand attitude					
	β	SE	t-value	p-value	95% CI
Decisional guidance					
Suggestive	-0.376	0.106	3.563	$p < 0.001$	[-0.584, -0.168]
Informative	-0.031	0.095	0.322	$p > 0.05$	[-0.217, 0.156]
Conditional indirect effect: VI social role $\rightarrow$ psychological distance $\rightarrow$ brand attitude					
	β	BootSE	95% CI		

	β	SE	<i>t</i> -value	<i>p</i> -value	95% CI
Decisional guidance					
Suggestive	0.141	0.051	[0.050, 0.247]		
Informative	-0.009	0.045	[-0.097, 0.077]		
Index of moderated mediation					
	Index	BootSE	95% CI		
Decisional guidance	0.150	0.069	[0.023, 0.298]		

Note: DV = dependent variable, β = coefficient, SE = standard error, LLCI = lower limit confidence interval, ULCI = upper limit confidence interval.

(Source: Authors' own work)

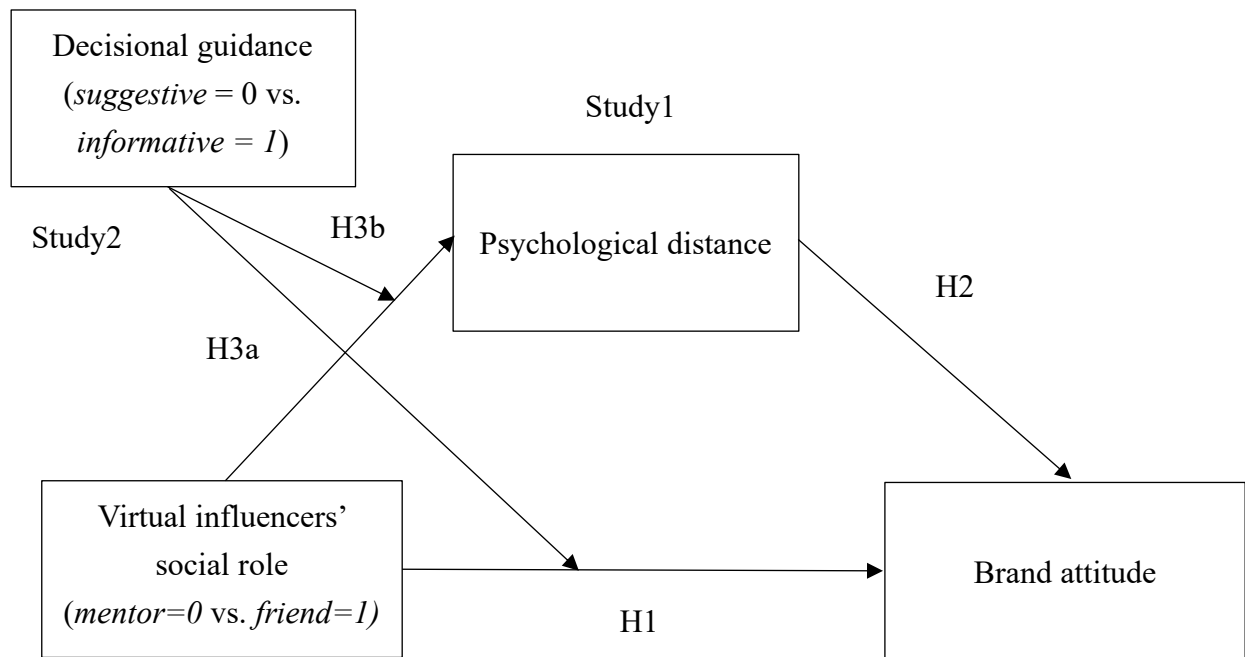


Figure 1. Theoretical framework

(Source: Authors' own work)

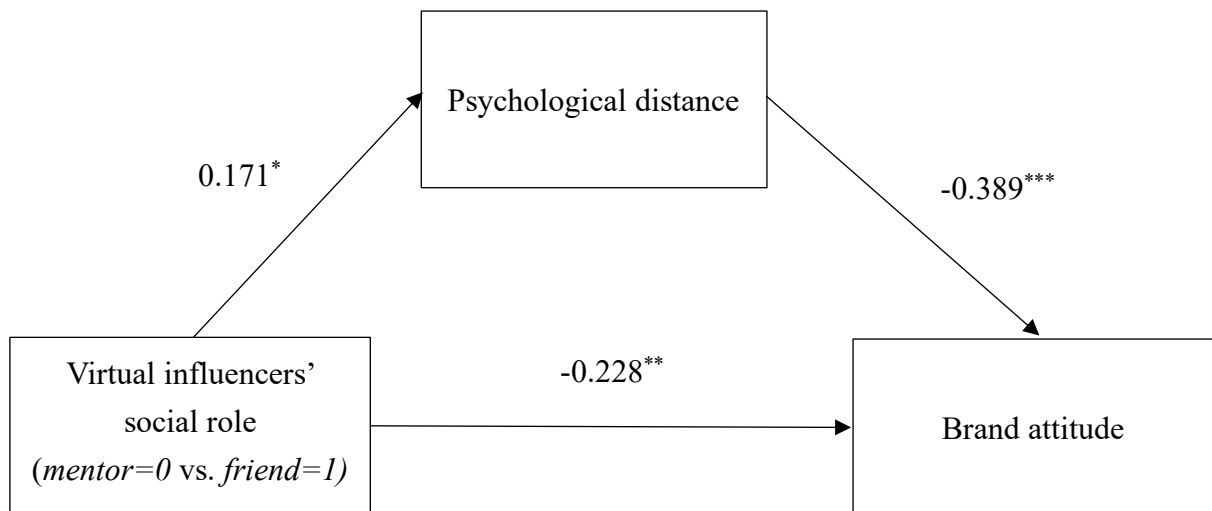


Figure 2. Results of path model with estimated coefficients (Study 1)

Note: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$.

(Source: Authors' own work)

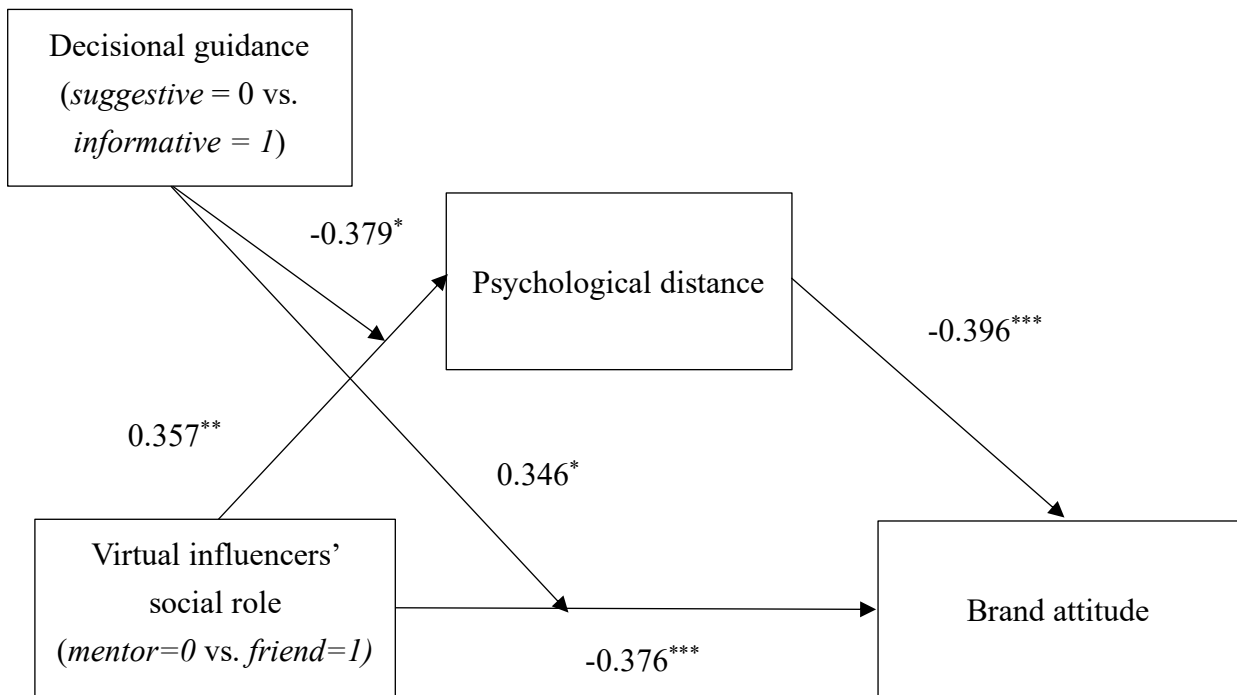


Figure 3. Results of path model with estimated coefficients (Study 2)

Note: $^* p < .05$; $^{**} p < .01$, $^{***} p < .0001$.

(Source: Authors' own work)

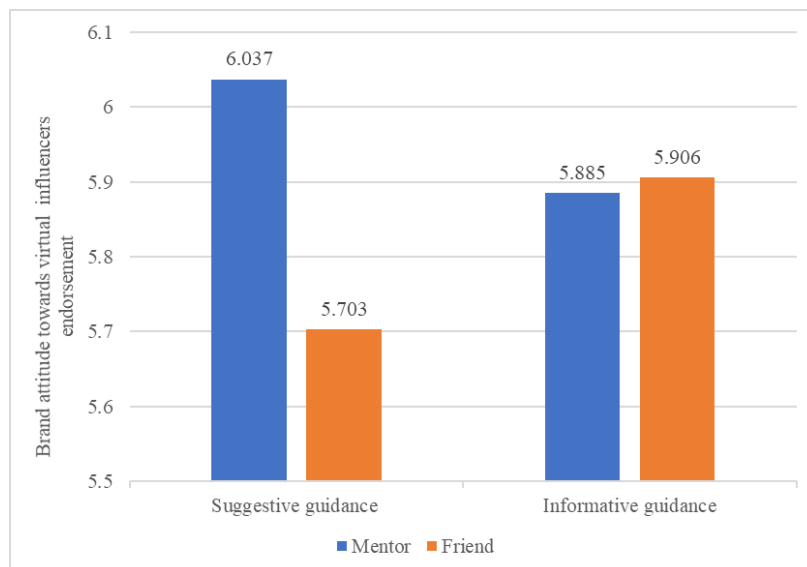


Figure 4. Moderation of decisional guidance (Study 2)

(Source: Authors' own work)

Appendix 1. Scenarios and stimuli of Study 1.

Scenario 1a: Friend role

Hi~ Dear Friends! 🚗 ✨

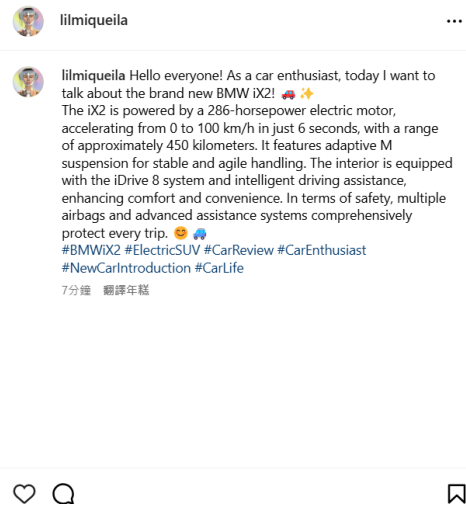
I recently got the BMW iX2 I've been dreaming of, and I'm absolutely thrilled! It looks incredibly stylish, the interior is super comfortable, and it drives so smoothly~ Whether it's for weekend getaways or daily school runs with the kids, it's perfect! If you're interested, feel free to come and share your thoughts



with me~ 😊❤️

Scenario 1b: Mentor role

Hello everyone! As a car enthusiast, today I want to talk about the brand-new BMW iX2! 🚗 ✨ The iX2 is powered by a 286-horsepower electric motor, accelerating from 0 to 100 km/h in just 6 seconds, with a range of approximately 450 kilometers. It features adaptive M suspension for stable and agile handling. The interior is equipped with the iDrive 8 system and intelligent driving assistance, enhancing comfort and convenience. In terms of safety, multiple airbags and advanced assistance systems comprehensively protect every trip. 😊 🚗



(Source: Authors' own work)

Appendix 2. Scenarios and stimuli of Study 2.

Scenario 2a: Friend role x Informative guidance



lilmiquela

Hey dear friends 🥰🥰, I've been considering changing my car lately and have researched quite a few brands and models. I wanted to share my findings with you.

The iX2 is an economical and affordable car, especially suitable for daily commuting. It has very low fuel consumption 📉, and the interior space is quite spacious, making it ideal for family use. If you place more emphasis on driving pleasure, the iX3 might suit you better. It boasts outstanding performance, smooth acceleration, and is equipped with advanced driving assistance systems. This car also comes in a variety of color options. The iX4 has super strong power and a very high chassis, suitable for off-roading and capable of handling various road conditions 🙌🙌

Each car has its own features and advantages 🏠, The key is to consider your needs and preferences to make the right choice.

#THENEWiX2 #BMWix2 #BMW #BMWi #BMWelectric

已編輯 · 3週 翻譯年糕



Scenario 2b: Friend role x Suggestive guidance



lilmiquela

Hey dear friends 🥰🥰, I've been considering changing my car lately and have researched quite a few brands and models. I wanted to share my experience with you.

I recently test-drove BMW's latest iX2. It boasts outstanding electric performance, equipped with dual motors that provide strong acceleration capabilities 📈. The interior is luxurious and comfortable, with exceptionally superior front-row space. It supports fast charging, and studies show a range of up to 395 kilometers. Additionally, the iX2 features an adaptive suspension system, offering drivers a stable and enjoyable driving experience.

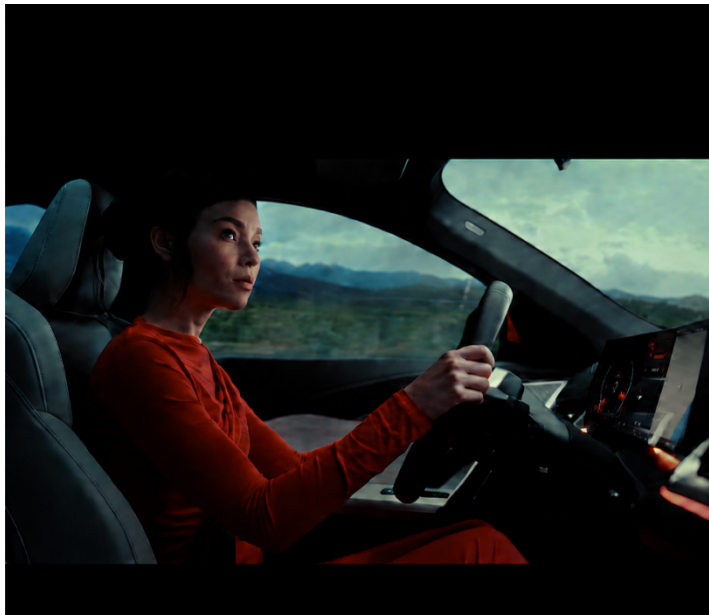
In summary, if you're looking for a model that combines stylish appearance, excellent performance, and high safety 🏠, I highly recommend BMW's iX2. Without a doubt, it is the best choice 🙌🙌

#THENEWiX2 #BMWix2 #BMW #BMWi #BMWelectric

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Scenario 2c: Mentor role x Informative guidance



lilmiquela



lilmiquela As an automotive expert, today I'd like to share some of the latest updates on BMW's newest models with everyone.

I have recently compared several BMW models. The iX2 is an economical and affordable car, especially suitable for daily commuting. It has very low fuel consumption, and the interior space is quite spacious, making it ideal for family use. If you place more emphasis on driving pleasure, the iX3 might suit you better. It boasts outstanding performance, smooth acceleration, and is equipped with advanced driving assistance systems. This car also comes in a variety of color options. The iX4 has super strong power and a very high chassis, suitable for off-roading and capable of handling various road conditions

Each car has its own features and advantages. The key is to consider your needs and preferences to make the right choice.

[#THENEWiX2](#) [#BMWix2](#) [#BMW](#) [#BMWi](#) [#BMWElectric](#)

Edited · 3w · See translation



Scenario 2d: Mentor role x Suggestive guidance



lilmiquela



lilmiquela As an automotive expert, today I'd like to share some of the latest updates on BMW's newest models with everyone.

I recently test-drove BMW's latest iX2. It boasts outstanding electric performance, equipped with dual motors that provide strong acceleration capabilities. The interior is luxurious and comfortable, with exceptionally superior front-row space. It supports fast charging, and studies show a range of up to 395 kilometers. Additionally, the iX2 features an adaptive suspension system, offering drivers a stable and enjoyable driving experience.

In summary, if you're looking for a model that combines stylish appearance, excellent performance, and high safety, I highly recommend BMW's iX2. Without a doubt, it is the best choice.

[#THENEWiX2](#) [#BMWix2](#) [#BMW](#) [#BMWi](#) [#BMWElectric](#)

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(Source: Authors' own work)