

# On the Social Media Platform, Virtual Internet Celebrities and Real Idol Brand Spokesmen Perceive Human Nature, Physical Charm, and Study Consumer Reaction Based on Self-Consistency: The Media Effect of Trust

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**Abstract:** - With technological advances in computer-generated images, a new type of social media influencer has arisen, the virtual webcam. It has an advantage over human webmasters because, without physical constraints, their images are easier to control. However, it remains to be seen and researched whether virtual influencers can be as effective as human influencers in generating positive brand attitudes. Virtual web celebrities or real idols, marketing to consumers is the trust of the marketing effect, so it tries to discuss from the empirical. This paper discusses the role of perceiving human nature, charm, and the mediation effect of trust based on self-consistency. To this end, determine the perception of human-level (high/low) and charm (high/low) self-consistency (high/low) model spokesperson type (virtual web celebrity/real idol) on the influence of advertising effect, the results show that consumers to brand perception human nature and charm level is higher, when a positive attitude towards advertising and high trust, and consumer self-consistency is higher brand spokesperson also have higher preference. In addition, trust also plays a media role in the relationship between the characteristics of brand spokesmen and the advertising effect. Specifically, when the level of human nature and charm is high, the spokesperson will be more trustworthy, which also has a positive impact on the effect of all advertising. Finally, the influence of human nature perception and charm on the advertising effect does not change according to the different types of spokesmen, but in contrast, the trust degree of real idol models is higher than that of virtual web celebrities, and their positive attitude and purchase intention to the brand are also higher. Perception of humanity, charm, and self-consistency all have a positive impact on trust. Furthermore, trustworthiness had a meaningful effect on consumer response and was confirmed to have a vector effect on all independent variables. This study is expected to provide both theoretical and practical value by clarifying the effects of the main variables that may influence the marketing of brand spokesmen.

**Key-Words:** - Marketing, Virtual web celebrity, Brand spokesmen, Media platform, Spokesperson Trust, Perceived human nature, Charm, Consistency.

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## 1 Introduction

With the emergence of the concept of "meta-universe", the accompanying virtual web celebrity

also appears on various social media platforms. They seem to be similar to the real people and even have the same human set as the real people,

constantly attracting the attention of the public and gaining a large number of fans. Different types of virtual web celebrities give the brand side more cooperation choices and marketing. Imma, a virtual web celebrity in Japan, is a fan of hair. Virtual web celebrity Miquela is a Brazilian and Spanish hybrid girl, a professional musician, with cute freckles on her face. As a new opinion leader in the digital age, the emergence of virtual web celebrities undoubtedly provides a new idea for brand marketing and extends the boundary of brand marketing. Virtual web celebrities will be the mainstream marketing trend in the digital era, becoming more and more favored by brands.

The upsurge of the brand virtual image model coincides with the rapid development of the digital economy. Although some people think that the virtual web celebrity industry is still in its infancy, more and more brands are beginning to try to use virtual web celebrities and target the consumer groups in the Z era. Because young people have become the main consumers of the market, they are more receptive to virtual characters. In addition, with the repetition of basic technologies, the barriers between virtual and reality are broken, and the sense of reality of experience and interaction becomes more urgent. With the rapid development of the virtual economy, brands need to extend their brand image to the virtual world. The 2021 virtual idol consumer market survey report shows that 62.31% of young consumers have the possibility of buying virtual idol model products, 9.78% of consumers will pay for the virtual idol model when young consumers gradually form the core purchasing power, brand virtual image model will become the focus of the brand, release more brand business value, [1].

Under the new trend of virtual web celebrity brand endorsement, is there any difference between the effect of virtual web celebrities and real idols as advertising spokesmen? That is, the perception of human nature and the charm of virtual web celebrities and real idols is based on the analysis of advertising and influence, to verify the difference between the effect of virtual web celebrity and real idol advertising. It needs to pay a large amount of endorsement fee to be the role of advertising spokesperson. Secondly, virtual web celebrities and real idols verify the reaction attitude of consumers under the intermediary effect of trust.

## 2 Theoretical Background

### 2.1 Spokesperson Trust

Influencers or idols are people who can influence others and make people worship. The digitalization of images is the biggest difference between virtual idols and real idols. In addition, it is also manifested in the further media such as voice and social mode. Virtual idol is an embodiment of the high media of people, [2]. Young people's enthusiasm for virtual idols stems from the individual's worship of ideal and perfect characters. It is a "new idol worship" generated by contemporary fan culture in the digital age, and presents diversified forms with the development of technology, [3]. Virtual web celebrity is derived from the continuous evolution of virtual idols. The operation mode of virtual web celebrities is more and more close to real web celebrities. Virtual web celebrities has crossed from the previous two-dimensional world to the third-dimensional world and are active in social media, short videos, live broadcasts and other real scenes.

In the traditional media environment, the person who influences most decision-making and information dissemination is called the opinion leader, and the opinion leader can be interpreted as the person or leader who can influence the opinions or behaviors of others, [4]. Their role is equivalent to a channel for delivering information about a product to consumers, and can be seen as a provider of information that can influence purchasing decisions, [5]. In the age of smart media, networking-based social media are also spreading. In such a media environment, several new opinion leaders with leading roles and leading opinions appear. They have a large number of fans, not only in the spread of information, and in the formation of public opinion, but also play a huge influence on the opinion guide as called idols.

Trust (Credibility) is the characteristic of the information source that affects the audience response, [6], which is the reliability and professionalism of the advertising audience perception disseminator. Reliability refers to the belief in trustworthiness and reliability of the advertising spokesperson as a source of information. The advertising spokesperson is an objective source of information, and it has no intention to deceive the advertising audience for its interests, [7]. Advertising spokesmen are considered to be true statements of their advertising products and are considered to be true statements of information transmitters. It is therefore defined as the level of trust that consumers have, [8]. Advertising audiences believe that advertising spokesmen have

the experience, knowledge, and technology related to the information theme, and will provide unbiased opinions and sincere and objective information. The credibility of advertising spokesmen has received considerable academic attention. In practice, enterprises use advertising spokesmen as reliable sources of information to influence consumers' attitudes and purchasing intentions, [9].

An advertising spokesperson is the information messenger with the knowledge or ability to convey advertising information, [10], which is that the audience thinks that the advertising model can put forward the correct answer or correct judgment on the theme or focus of the given information. [11], defined the knowledge or ability to make reasonable claims as the professionalism of the advertising audience. Therefore, professionalism is not so much the attribute of the advertising model itself as the attribute of the advertising model perceived by the audience. The persuasive effect of professionalism is different from the persuasive effect of reliability. Considering it together with the technical proposition of information, it largely depends on the explanatory power of the models appearing in the advertisement. Therefore, reliability and professionalism are important for the conceptualization of trust and can be seen as attitudes that persuade consumers, [12]. It is worth mentioning that the professionalism of advertising spokesmen plays a greater influence in the process of consumer purchase decision-making. We experimented on the reliability and professionalism dimensions and found that the professional factors have the most influence.

Since virtual Internet celebrities are not real human beings, and most of them are operated for commercial purposes, virtual celebrities lack reliability in the advertisements and posts of the brands and products they act or publish, which may lead to their lack of credibility. With the increasing demand for trust in society, people put more emphasis on the need for trust in advertising spokesmen, so trust is a must-have element as advertising spokesmen, [13]. When consumers believe that advertising spokesmen or information sources are highly professional and transmit information objectively and honestly, they will internalize the prompted information and actively accept it. Internalization means that the recipient of the information accepts the information as his own opinion and complies with the attitude or behavior that the information wants to guide, [14]. Professionalism is also related to the adaptation between advertising models and products. For example, the use of dentists as advertising models

and race car drivers for car oil in toothpaste advertisements all emphasize the professionalism of the product and the right advertising model and thus gain trust.

Therefore, Hypothesis 1. In the type of brand spokesperson, real idols will show more active trust than virtual Internet celebrities.

## 2.2 Perceived Human Nature

Perceived humanity refers to the degree to which a person (human or non-human) is considered to have typical human qualities, [15]. Social robots should look like real humans and give humans psychological abilities to improve acceptance and make social dialogue with humans easier. Previous research has found that people are more likely to be associated with robots that look like humans, [16]. According to the CASA (computer is a social actor) paradigm, human beings unconsciously apply human social scripts to the interaction with social technologies and make social interactions with human-like computers, such as personality and emotion, [17]. Research in the field of human-computer interaction shows that social and anthropomorphic cues have positive effects on human perception and response, [18]. Therefore, artificial actors who can participate in social interaction through dialogue and emotional expression are likely to be regarded as true social actors. Humans differ from machines in warmth and emotion, [19]. The core characteristics of human nature are emotion, warmth, openness, initiative, and depth, which is considered to be a basic aspect of human nature. As a result, emotional aspects such as warmth and experience are often defined as basic skills, as compared to machines, [20]. Warm and friendliness, in the form of cooperation-communication skills, is a real emotion that requires a complete human mind to experience, [21]. In short, warmth and experience, surpassing ability and reason, seem to be the unique human characteristics that distinguish between humans and machines. A study by showed that the humanoid behavior, emotions, and morality of virtual agents promote the perception of human nature, therefore, the perception of the virtual agent improves customer satisfaction. Earlier research has confirmed that a virtual web celebrity with personalized stories and experiences can affect people's perception of products. It is seen as a central component of human communication. Therefore, it is expected that the interaction of virtual web celebrities on the network will bring a higher humanized perception, and then positively affect the brand attitude and purchase intention.

Therefore, Hypothesis 2. Compared with a high or low perception of human nature, the high perception of human nature will show more positive trust.

Research question 1. Will the type of brand spokesperson (virtual web celebrity/real idol) and the perception of human nature (high/low) show an interactive effect on the trust degree?

### 2.3 Charm

Charm can be formed through a combination of physical charm and social charm, [22]. Physical charm means the face and body, while social charm means intimacy (familiarity), similarity (similarity), and goodwill (likability), [23]. Intimacy refers to the sense of familiarity of consumers with advertising models. Model spokesmen establish a sense of familiarity through communication and bond with their fans, and consumers are attracted to the spokesmen in this way. Similarity means that consumers think they are similar to advertising models. According to the similarity-attraction theory (similarity-attraction theory), people not only feel comfortable and attractive about their appearance, gender, and age, but also about people with similar orientations, values, beliefs, and attitudes to themselves, [24]. Faction refers to the good feeling of the spokesperson or the emotional degree of the spokesperson, that is, the degree of preference. The higher the goodwill, the more attractive it is. In addition, in addition to this physical charm and social charm, it also includes intelligence, personality, lifestyle, and other charm.

In many studies on the effect of advertising spokesperson and information source effect models, the trust and charm of the advertising model or guarantor have a positive impact on consumer attitudes, purchasing intentions, and verbal intentions towards the brand or product, [25]. That is to say, people's positive, goodwill evaluation and emotion of advertising spokesmen will transfer to the product and brand, so that people's attitude, purchase intention, and oral intention towards the product and brand will be positively improved, which is a long-standing empirical test. In addition, the credibility and attractiveness of brand spokesmen also have a positive impact on consumers' evaluation and attitudes, [26], the survey shows that the charm and trust of brand spokesmen are based on brand attitude, which has a positive impact on the purchase intention.

Therefore, Hypothesis 3, the higher the charm of the brand spokesperson, the higher the trust degree.

### 2.4 Consistency

Self-image refers to the image of oneself, [27]. Just like the self-image of the consumer, the product also has the image of the product. Product image is shaped not only by price and advertising but also by users, [28]. Self-image is a self-concept studied in psychology, but recently much self-image in the field of consumer behavior. Consumers like products that are similar to their self-image, [29], and express their personality characteristics by using their self-image corresponding with the product image and owning the product. The product can well express the self-image of consumers and lead them to sustained long-term loyalty, [30]. Brands that promote self-change in a positive direction or have higher goals are more real in the eyes of consumers than less positive brands, which will lead to a positive attitude towards the brand, [31]. In addition, consumers will meet the needs of self-respect and a sense of self-consistency for products or brands with images similar to self-concept, [32]. That consumers will have a love for a specific brand with the image consistent with their image or consistent with the image seen by others, [33]. Self-consistency will have a direct impact on the charm and trust. Researchers believe that the relationship between brands and consumers will be more harmonious, and the consistency of self will affect the charm of basic perception and perceived human nature, so it is adopted as an important variable.

Therefore, Hypothesis 4, the higher the self-consistency of the brand spokesperson, the higher the trust degree.

## 3 Research Technique

### 3.1 Experimental Design

This study discusses the influence of brand spokesperson type (virtual web celebrity and real idol) and the perception of humanity, self-consistency, and the charm of spokesperson on trust. It also examines whether the trust has a meaningful impact on consumers' reaction (advertising attitude, brand attitude, and purchasing intention), and verifies the media effect of the trust from the results.

The experimental design of this study is divided into virtual web celebrities and real idols according to the type of spokespersons. The experimental group was divided into two groups. The specific stimuli were made as follows:

Experimental stimuli of this study, to control the subjects' attitude of spokesperson, made a virtual web celebrity and the image of the real idol, the

experiment stimuli to the subject simple exposure, considering this, set it for at least tens of thousands of fans spokesperson, so that the subjects indirectly feel the influence of the spokesperson. According to the advertisement of the products on the social platform, the spokesperson advertising poster was made, with the slogan "for your skin color, bright white, radiant", "+ 83% even skin color, + 91% skin luster".

### 3.2 Product Selection and Spokesperson Setting

In the effect study of commodity types, according to the five categories of products, cosmetics are products with high psychological and physical danger. Therefore, in cosmetics advertising, virtual spokesmen and real spokesmen are the most used products.

Referring to the current situation of the cosmetics industry of the Korean Cosmetics Industry Research Institute, we chose 5 varieties such as toner, essence, lotion, cream, and facial mask, and choose the cosmetics that we are most familiar with, have high participation and like. The survey results showed that the facial mask had the highest score.

To control the subjects' attitude towards the spokesperson, the general spokesperson was made and used to distinguish the difference between a virtual person and a real person in appearance and to prompt the information of "a virtual web celebrity spokesperson" and "a real idol spokesperson" through the situation setting text.

### 3.3 Subjects and Data Collection

To verify the research hypotheses and questions of this study, an online questionnaire was conducted for college students in China from May 20, 2023, to 20 June 2023. The experimental stimuli and spokesperson types of this study require consumers who are more familiar with social media online shopping and often use cosmetics.

A total of 352 participants participated in the experiment of this study, excluding 45 consumers who did not use cosmetics. Finally, the data from 300 valid samples were applied to this study.

### 3.4 Research Models and Research Questions

#### 3.4.1 Research Model

This study aims to verify the influence of the type of product spokesperson (virtual web celebrity/real idol) and the perception of human nature and charm on the trust of brand spokesperson under the self-consistency. And verify the response of trust to

consumers (advertising attitude, brand attitude, purchase intention). Finally, confirm the media effect of the trust of the brand spokesperson. The study model constructed based on this result is shown in Figure 1.



Fig. 1: Establishment of research model on media effect of confirming brand spokesperson's trust

#### 3.4.2 Project

Research question 1. Will the type of brand spokesperson (virtual web celebrity/real idol) and the perception of human nature (high/low) show an interactive effect on the trust degree?

Research question 2. Will there be a media effect between the type of spokesperson, perception of humanity, charm, self-consistency, and consumer response?

## 4 Finding

### 4.1 Demographic Characteristics

The subjects of this study were four-year undergraduate students. Among the demographic characteristics, apart from gender education, whether they had experience in online shopping on social media platforms and had ever used Korean cosmetics, the data were further collected through the questionnaire.

The results showed that 78.7% of the subjects were aged 18-25 years old, and all of them had experience in using social media for online shopping. The experimental subjects participating in this study were randomly arranged in two groups. In each experimental group were 184 in the virtual web celebrity group and 187 in the real idol group. 150 valid questionnaires were selected for analysis.

### 4.2 The Main Effect of the Type of South Korean Cosmetics Brand Spokesperson

To observe the effect of cosmetic spokesperson type on trust, an independent sample t-test was performed. Through the difference in the subordinate effect of the two spokesperson types

(virtual web celebrity/real idol), we try to verify that the spokesperson type has a meaningful impact on trust. At the same time, I want to verify which type of spokesperson has a more positive impact on trust. The study hypothesis is as follows.

Research hypothesis 1. Among the types of Korean cosmetics brand spokespersons, real idol type will show more active trust than virtual web celebrities (Table 1, Appendix).

To study the influence of spokesperson type on trust, as shown in Table 1 (Appendix), the influence factors of human idols ( $M=4.61$ ,  $SD=1.65$ ), The influencing factors of virtual web celebrity ( $M=3.38$ ,  $SD=1.39$ ) showed a more positive trust, which was statistically significant ( $t= -6.97$ ,  $p < .001$ ). Therefore, study hypothesis 1 holds.

### 4.3 The Main Effect of Perceiving Human Nature

This study raises four measurement questions to verify whether the virtual web celebrity spokesperson feels human nature. Do you think the models in this advertisement are natural? Do you think the models in this AD are like humans? Do you think the models in this AD are conscious? Do you think the model in this AD is alive? Measure with Likert 7 points (1= not at all; 7= very yes). Two clusters of high and low perceived human nature are divided by the mean. An independent sample t-test was conducted to verify the differences between the subordination of the two groups, whether the perceived human nature had a meaningful impact on trust, and the higher the perceived human nature, the more positive the effect on trust.

Research hypothesis 2. The brand spokesperson of Korean cosmetics will show more positive trust compared with a high or low perception of human nature (Table 2, Appendix).

The analysis results can be seen in Table 2 (Appendix), where the perception of human nature has a meaningful influence on trust. The effect of perceived human nature on trust was examined, and groups with high perception ( $M=4.72$ ,  $SD=1.52$ ) showed more positive trust than those with low perception ( $M=3.28$ ,  $SD=1.43$ ), which was statistically significant ( $t= -8.38$ ,  $p < .001$ ). Therefore, the study hypothesis that 2 holds true.

### 4.4 The Interaction Effect of the Spokesperson Type and the Perception Of Human Nature

After analyzing the main effect of spokesperson type and the effect of perceived human nature,

variable analysis of variance (Two-way ANOVA) was conducted to further analyze the interaction effect of spokesperson type and perceived human nature. That is, whether the influence on trust under the interaction of human nature perceived by virtual web celebrities and human idols changes. The research questions are presented as follows:

Research question 1. Will the type of brand spokesperson (virtual web celebrity/real idol) and the perception of human nature (high/low) show an interactive effect on the trust degree (Table 3, Appendix)?

The results of the analysis of the research questions can be seen from Table 3 (Appendix), in terms of trust, the interactive effect of the spokesperson type and the perception of human nature is completely absent. That is, both virtual Internet celebrities and real idols show a more positive trust in the perception of human nature.

### 4.5 The Main Effect of Self-Consistency

This study sought to examine whether the self-consistency of spokespersons had a meaningful influence on trust. Self-consistency is formed by the subject's subjective judgment of the cues in the experimental stimulus, such as personal feelings or thoughts, which the researcher cannot operate. Two groups of self-consistent (high/low) were separated by the mean. Independent sample t-test was used to examine the effect of self-consistency on trust. The difference in self-consistency is separated by the mean between the two groups on trust, and whether the influence on trust is significant. The study hypotheses are as follows:

Research hypothesis 3. The higher the self-consistency of the brand spokesperson, the higher the trust of the brand spokesperson (Table 4, Appendix).

The results shown in Table 4 (Appendix) show that self-consistency has a significant influence on reliability. The group with high self-consistency ( $M=4.66$ ,  $SD=1.51$ ) showed higher trust than the group with low self-consistency ( $M=3.20$ ,  $SD=1.43$ ), which was statistically significant ( $t= -8.52$ ,  $p < .001$ ). Study Hypothesis 3 holds true.

### 4.6 The Main Effect of Charm

This study used an independent sample t-test to examine the effect of charm on trust. Divide the charm into two groups through the mean to verify the difference between the cluster on trust and whether the influence on trust is significant. The study hypotheses are as follows:

Research hypothesis 4. The higher the cognition of the charm of the brand spokesperson, the higher

the trust of the brand spokesperson (Table 5, Appendix).

Analysis results can be seen from Table 5, (Appendix), charm is verified to have a meaningful effect on reliability. The group with high attractiveness ( $M=4.64$ ,  $SD=1.63$ ) showed higher trust than the group with low attractiveness ( $M=3.37$ ,  $SD=1.40$ ). Statistically significant ( $t=7.20$ ,  $p<.001$ ). Therefore, study hypothesis 4 holds.

#### 4.7 The Main Effect of Reliability

A simple regression analysis (Regression analysis) was conducted to examine the effect of trust on consumer response (content attitude, brand attitude, purchase intention).

The study hypotheses are as follows:

Study hypothesis 5. Trust will have a positive (+) impact on consumer response (Table 6, Appendix).

The analysis results are shown in Table 6, (Appendix) and the explanatory power of trust on advertising attitude, brand attitude, and purchase intention are 20%, 19%, and 38% respectively, and has significant statistical significance ( $\beta=.45$ ,  $p<.001$ ) ( $\beta=.44$ ,  $p<.001$ ) ( $\beta=.51$ ,  $p<.001$ ). It has been confirmed that the higher the trust of the spokesperson, the more positive the consumption reaction. So, the study hypothesis 5 holds true.

#### 4.8 The Mediation Effect of Trust Degree

This study sought to explore whether trustworthiness plays a mediating role between spokesperson type, perceived humanity, self-consistency, and charm, and consumer response. Previously, the test of research hypotheses 1, 2, 3, and 4 confirmed the statistically significant relationship between the type of spokesperson and the perception of humanity, self-consistency, and charm on trust. Through the verification of study hypothesis 5, we confirmed that trust has a meaningful impact on consumer response. To verify the medium effect of trust, the hierarchical multiple regression analysis method proposed in [34], is implemented. The research question is as follows.

Research question 2. Will there be a media effect between the type of spokesperson, perception of humanity, charm, self-consistency, and consumer response?

##### 4.8.1 Model Type, Perception of Humanity, Self-Consistency, Charm and Advertising Attitude

Hierarchical multiple regression analysis was performed to investigate whether trust plays a mediating role between model type, perceived

humanity, charm, self-consistency, and advertising attitudes (Table 7, Appendix).

The results are shown in Table 7 (Appendix). First of all, the test passed the first stage and determined that the type of spokesperson, perception of humanity, self-consistency, and charm have a meaningful influence on trust, respectively ( $\beta=.375$ ,  $p<.001$ ) ( $\beta=.467$ ,  $p<.001$ ) ( $\beta=.420$ ,  $p<.001$ ) ( $\beta=.468$ ,  $p<.001$ ). Secondly, through the test of step 2, the model type, perception of humanity, self-consistency and charm have meaningful effects on advertising attitude, respectively ( $\beta=.465$ ,  $P<.001$ ) ( $\beta=.434$ ,  $P<.001$ ) ( $\beta=.430$ ,  $P<.001$ ) ( $\beta=.436$ ,  $P<.001$ ). Again, through the test of step three, the influence of model type, human nature perception, self-consistency, charm, and trust on advertising attitude is confirmed. The results showed that the influence of model type, perceived humanity, self-consistency, charm, and trust on advertising attitude were respectively ( $\beta=.344$ ,  $P<.001$ ) ( $\beta=.284$ ,  $P<.001$ ) ( $\beta=.291$ ,  $P<.001$ ) ( $\beta=.286$ ,  $P<.001$ ) are lower than the standardized coefficient values of the second stage, which means that the trust degree has a partial mediating effect between them. Specifically, in terms of the explanatory power of advertising attitude, the first stage was 14%, 22%, 18%, and 22% respectively, and the intermediary effect of trust increased to 31%, 27%, 28%, and 27% respectively. Thus, the partial mediating effect of reliability was verified.

##### 4.8.2 Model Type, Perception of Humanity, Self-Consistency, Charm and Brand Attitude

A hierarchical multiple regression analysis was conducted to investigate whether trust plays an intermediary role between model type, perceived humanity, personal innovation, charm, and brand attitude (Table 8, Appendix).

The results are shown in Table 8 (Appendix). First of all, the test passed the first stage, and determined that the type of spokesperson, perception of humanity, self-consistency, and charm have a meaningful influence on trust, respectively ( $\beta=.375$ ,  $p<.001$ ) ( $\beta=.467$ ,  $p<.001$ ) ( $\beta=.420$ ,  $p<.001$ ) ( $\beta=.468$ ,  $p<.001$ ). Secondly, through the test of step 2, the model type, perceived humanity, self-consistency and trust have meaningful influence on brand attitude, respectively ( $\beta=.367$ ,  $P<.001$ ) ( $\beta=.421$ ,  $P<.001$ ) ( $\beta=.382$ ,  $P<.001$ ) ( $\beta=.388$ ,  $P<.001$ ). Again, through the test of step 3, the influence of the model type, human nature perception, self-consistency, charm, and trust on the brand attitude is confirmed. The results showed that the influence of model type, perceived humanity, self-consistency, charm, and trust on brand attitude

were respectively ( $\beta=.235$ ,  $P<.001$ ) ( $\beta=.275$ ,  $P<.001$ ) ( $\beta=.240$ ,  $P<.001$ ) ( $\beta=.233$ ,  $P<.001$ ) are lower than the standardized coefficient values of the second stage, which means that the trust degree has a partial mediating effect between them. Specifically, in terms of the explanatory power of brand attitude, the first stage is 14%, 22%, 18%, and 22% respectively, and the intermediary effect of trust increased to 24%, 25%, 24%, and 24% respectively. Thus, the partial mediating effect of reliability was verified.

#### 4.8.3 Model Type, Perception of Humanity, Self-Consistency, Charm and Purchase Intention

Hierarchical multiple regression analysis was performed to investigate whether trust plays a mediating role between model type, perceived humanity, personal innovation, charm, and purchase intention (Table 9, Appendix).

The results are shown in Table 9 (Appendix). First of all, the test passed the first stage and determined that the type of spokesperson, perception of humanity, self-consistency, and charm have a meaningful influence on trust, respectively ( $\beta=.375$ ,  $p<.001$ ) ( $\beta=.467$ ,  $p<.001$ ) ( $\beta=.420$ ,  $p<.001$ ) ( $\beta=.468$ ,  $p<.001$ ). Secondly, through the test of step 2, the model type, perceived humanity, self-consistency, and charm have meaningful effects on the purchase intention, respectively ( $\beta=.600$ ,  $P<.001$ ) ( $\beta=.579$ ,  $P<.001$ ) ( $\beta=.401$ ,  $P<.001$ ) ( $\beta=.482$ ,  $P<.001$ ). Again, through the test of step 3, the influence of the model type, perceived humanity, self-consistency, charm, and trust on the purchase intention is confirmed. The results showed that the influence of model type, perceived humanity, self-consistency, charm, and trust on advertising attitude were respectively ( $\beta=.429$ ,  $P<.001$ ) ( $\beta=.372$ ,  $P<.001$ ) ( $\beta=.172$ ,  $P<.001$ ) ( $\beta=.247$ ,  $P<.001$ ) are lower than the standardized coefficient values of the second stage, which means that the trust degree has a partial mediating effect between them. Specifically, in terms of the explanatory power of the purchase intention, the first stage was 14%, 22%, 18%, and 22% respectively, and the intermediary effect of trust increased to 53%, 49%, 40%, and 43% respectively. Thus, the partial mediating effect of reliability was verified.

## 5 Conclusion

Enterprises and consumers are paying more and more attention to virtual web celebrities that span virtual and reality. Different from traditional real idols, virtual web celebrity goes beyond the limitations of time and space, and is considered to

be able to communicate with consumers online. This study tries to explore the trust of which type of brand spokesperson is higher and the influence of spokesperson type on the advertising effect. Specifically, we want to understand the difference in the perception of virtual web celebrities, and whether the charm of spokesmen and self-consistency will lead to different attitudes towards advertising, brand attitude, and purchase intention, and whether this relationship is mediated by trust. In addition, we try to verify whether the interaction between the type of spokesperson and perceived humanity has an impact on trust. The experimental results are discussed as follows:

The hypothesis was verified by experiments and the results supported the study hypothesis. It is found that compared with the virtual web celebrity spokesperson, the endorsement of real idols can effectively improve the advertising effect, which is mediated by consumers feeling the degree of trust in the advertising spokesperson. Through the evaluation of three dimensions, the perception of human nature, self-consistency, and charm of the trust of advertising spokesmen, it is concluded that the advertising trust of real idols is higher than that of virtual web celebrities. The trust of the spokesperson has a significant impact on the consumer response (advertising attitude, brand attitude, and purchase intention). Through verification, it is proved that trust is the core factor of consumer response in spokesperson marketing, and verified trust has different degrees of intermediary effect between the independent variables and consumer response.

The first research, the influence of advertising effect research from spokesperson owns some properties of the study, this study is on the basis of previous research, from a new perspective, the study of the spokesman focuses on traditional real idol, spokesperson and virtual web celebrity spokesperson, contrast two types of endorsements, explore different advertising spokesperson types and perception of human nature, the interaction of advertising effect, enrich the advertising spokesperson and advertising effect related theoretical research content. In practice, it provides a reference value for product promotion and the use of a spokesperson advertising strategy when expanding the market. Starting from the trust of advertising spokesmen, it provides an accurate judgment benchmark for advertisers or marketing leaders when choosing more appropriate advertising spokesmen. It is the creative purpose of most virtual celebrities to create the role of mass media whose shape and character are more in line with the



audience's expectations. The use of virtual celebrities as advertising spokesmen can not only avoid the risk of scandal among celebrities themselves, but also bring advertising unique experiences to consumers, and strengthen and consolidate consumers' positive feelings of the advertising itself.

Where the advantages of sustainable development of virtual netroots lie, it is suggested that virtual idol design companies and operation teams should make reasonable use of artificial intelligence technology and big data promotion to improve the popularity and anthropomorphism of virtual netroots, and intelligently push virtual netroots to users through platform databases, or create works related to virtual netroots and release them on various online platforms to improve the familiarity of Internet users with virtual netroots. When a company chooses a virtual web celebrity to promote its brand, their trustworthiness, humanity, charisma, and professionalism are screening criteria of the virtual web celebrity. In addition, when brands choose spokespersons, brand companies should adhere to the personality preferences and values of mass consumers, respect consumer trust according to the product positioning spokespersons, and choose the right spokespersons to match the brand image to increase branded product sales.

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## APPENDIX

Table 1. The main effect of the spokesperson type

| Model type  |                       | Average value<br>M | Standard error<br>SD | F      | T      | Free<br>degree | Significance<br>(double-<br>tailed) |
|-------------|-----------------------|--------------------|----------------------|--------|--------|----------------|-------------------------------------|
| Reliability | Virtual web celebrity | 3.3827             | 1.39374              | 10.777 | -6.974 | 298            | .000                                |
|             | Mortal idol           | 4.6133             | 1.65163              |        | -6.974 | 289.805        | .000                                |

Table 2. The main effect of perceiving human nature

| Perceive human clusters |                                    | Average<br>value | Standard<br>deviation | F     | T      | Free degree | Significance<br>(double-tailed) |
|-------------------------|------------------------------------|------------------|-----------------------|-------|--------|-------------|---------------------------------|
| Reliability             | Low perception of<br>human nature  | 3.2848           | 1.43971               | 2.961 | -8.389 | 298         | .000                            |
|                         | High perception of<br>human nature | 4.7208           | 1.52436               |       | -8.386 | 296.529     | .000                            |

Table 3. The interactive effect of the spokesperson type and the perception of human nature: The trust degree

|  | Class III and the sum<br>of the squares | Free<br>degree | Mean<br>square | F      | Conspicuousness |
|--|---|----------------|----------------|--------|-----------------|
| Model type                                 | 50.938                                  | 1              | 50.938         | 25.153 | .000            |
| Perceive human clusters                    | 91.563                                  | 1              | 91.563         | 45.215 | .000            |
| Model type * Perceived<br>humanity cluster | 4.708                                   | 1              | 4.708          | 2.325  | .128            |
| Error                                      | 599.423                                 | 296            | 2.025          |        |                 |
| Amount to                                  | 5604.680                                | 300            |                |        |                 |

A. R square = .259 (Adjusted R square = .252)

Table 4. The main effect of self-consistency

| Self-consistency cluster |                           | Average<br>value | Standard<br>deviation | F     | T | Free<br>degree | Significance (double-<br>tailed) |
|--------------------------|---------------------------|------------------|-----------------------|-------|---|----------------|----------------------------------|
| Reliability              | Low self-<br>consistency  | 3.2073           | 1.43535               | 2.722 | - | 298            | .000                             |
|                          | High self-<br>consistency | 4.6626           | 1.51462               |       | - | 293.712        | .000                             |

Table 5. The main effect of the charm

| Charm cluster |               | Average<br>value | Standard<br>deviation | F      | T      | Free<br>degree | Significance (double-<br>tailed) |
|---------------|---------------|------------------|-----------------------|--------|--------|----------------|----------------------------------|
| Reliability   | Low<br>charm  | 3.3724           | 1.40143               | 10.022 | -7.223 | 298            | .000                             |
|               | High<br>charm | 4.6405           | 1.63365               |        | -7.208 | 288.791        | .000                             |

Table 6. The main effect of trust: Consumer reaction

| Model                | Standardized coefficient Beta | T     | Conspicuousness | R square | Free degree | F      |
|----------------------|-------------------------------|-------|-----------------|----------|-------------|--------|
| Advertising attitude | .453                          | 8.782 | .000            | .206     | 1           | 77.125 |
| Brand attitude       | .441                          | 8.475 | .000            | .194     | 1           | 71.823 |
| Purchasing intention | .517                          | 9.542 | .000            | .381     | 1           | 83.388 |

Table 7. Media effect test results: Advertising attitude

| Relation |   | B     | SE   | B    | T     | R square | F      | P    |
|----------|---|-------|------|------|-------|----------|--------|------|
|          | Model type<br>Dummy variable                  | 1.231 | .176 | .375 | 6.974 | .140     | 48.643 | .000 |
| Step 1   | Perceived human nature → reliability          | .419  | .046 | .467 | 9.111 | .218     | 83.014 | .000 |
|          | Consistency                                   | .413  | .052 | .420 | 7.986 | .176     | 63.772 | .000 |
|          | Glamour                                       | .556  | .061 | .468 | 9.133 | .219     | 83.404 | .000 |
|          | Model type<br>Dummy variable                  | 1.687 | .186 | .465 | 9.078 | .217     | 82.417 | .000 |
| Step 2   | Perceived human nature Advertisement attitude | .429  | .052 | .434 | 8.312 | .188     | 69.091 | .000 |
|          | Consistency                                   | .467  | .057 | .430 | 8.223 | .185     | 67.621 | .000 |
|          | Glamour                                       | .571  | .068 | .436 | 8.354 | .190     | 69.784 | .000 |
|          | Model type<br>Dummy variable                  | 1.246 | .189 | .344 | 6.601 | .307     | 65.860 | .000 |
| Step 3   | Perceived human nature Advertisement attitude | .281  | .056 | .284 | 5.063 | .269     | 54.568 | .000 |
|          | Consistency                                   | .316  | .059 | .291 | 5.346 | .275     | 56.424 | .000 |
|          | Glamour                                       | .375  | .074 | .286 | 5.100 | .270     | 54.803 | .000 |
|          | Reliability                                   |       |      |      |       |          |        |      |

Table 8. Media effect test results: Brand attitude

| Relation |   | B     | SE   | B    | T     | R square | F      | P    |
|----------|---|-------|------|------|-------|----------|--------|------|
|          | Model type<br>Dummy variable            | 1.231 | .176 | .375 | 6.974 | .140     | 48.643 | .000 |
| Step 1   | Perceived human nature → reliability    | .419  | .046 | .467 | 9.111 | .218     | 83.014 | .000 |
|          | Consistency                             | .413  | .052 | .420 | 7.986 | .176     | 63.772 | .000 |
|          | Glamour                                 | .556  | .061 | .468 | 9.133 | .219     | 83.404 | .000 |
|          | Model type<br>Dummy variable            | 1.531 | .225 | .367 | 6.817 | .135     | 46.469 | .000 |
| Step 2   | Perceived human nature → brand attitude | .479  | .060 | .421 | 8.016 | .177     | 64.249 | .000 |
|          | Consistency                             | .477  | .067 | .382 | 7.145 | .146     | 51.045 | .000 |
|          | Glamour                                 | .585  | .081 | .388 | 7.263 | .150     | 52.748 | .000 |
|          | Model type<br>Dummy variable            | .981  | .227 | .235 | 4.316 | .242     | 47.350 | .000 |
| Step 3   | Perceived human nature → brand attitude | .314  | .065 | .275 | 4.859 | .254     | 50.442 | .000 |
|          | Consistency                             | .299  | .069 | .240 | 4.304 | .242     | 47.284 | .000 |
|          | Glamour                                 | .421  | .087 | .233 | 4.055 | .236     | 45.992 | .000 |
|          | Reliability                             |       |      |      |       |          |        |      |

Table 9. Media effect test results: Purchase intention

| Relation |   | B     | SE   | B    | T     | R square | F      | P    |
|----------|---|-------|------|------|-------|----------|--------|------|
|          | Model type<br>Dummy variable                  | 1.231 | .176 | .375 | 6.974 | .140     | 48.643 | .000 |
| Step 1   | Perceived human nature → reliability          | .419  | .046 | .467 | 9.111 | .218     | 83.014 | .000 |
|          | Consistency                                   | .413  | .052 | .420 | 7.986 | .176     | 63.772 | .000 |
|          | Glamour                                       | .556  | .061 | .468 | 9.133 | .219     | 83.404 | .000 |
|          | Model type<br>Dummy variable                  | 2.344 | .181 | .600 | 12.94 | .360     | 167.37 | .000 |
| Step 2   | Perceived human nature → purchasing intention | .618  | .050 | .579 | 12.26 | .335     | 150.41 | .000 |
|          | Consistency                                   | .469  | .062 | .401 | 7.559 | .161     | 57.135 | .000 |
|          | Glamour                                       | .682  | .072 | .482 | 9.490 | .232     | 90.05  | .000 |
|          | Model type<br>Dummy variable                  | 1.676 | .166 | .429 | 10.09 | .539     | 173.57 | .000 |
| Step 3   | Perceived human nature → purchasing intention | .397  | .050 | .372 | 7.937 | .489     | 142.26 | .000 |
|          | Consistency                                   | .202  | .058 | .172 | 3.496 | .405     | 101.26 | .001 |
|          | Glamour                                       | .350  | .070 | .247 | 4.981 | .429     | 111.42 | .000 |
|          | Reliability                                   |       |      |      |       |          |        |      |

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- Shanshan Liu provided methodological guidance for the study.
- Jongyoon Lee supervised and guided the entire study.

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