

THE EFFECT OF VIRTUAL SPOKESCHARACTER TYPE ON ONLINE ADVERTISEMENTS

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ABSTRACT

Previous studies has rarely examined the advertising effects of computer-generated imagery. To address the research gap regarding spokescharacters, this study examined the rarely discussed influence of speech synchronization on online advertisements. This study tested the effects of different types of virtual character on advertising effectiveness, which was measured according to ad credibility, attitude toward the ad, and attention toward the ad. The primary experiment included 8 conditions in which each character had a different gender (male vs. female), face type (human-like vs. cartoon-like), and speech synchronization (adult voice vs. child voice), thereby representing a hedonic animated online advertisement.

By using an analysis of variance, this study revealed that cartoon-like female spokescharacters with child speech synchronization exhibited the highest effectiveness in online advertisements.

Keywords: Spokescharacters; Online Advertisements; Animation; Face Type; Speech Synchronization

1. INTRODUCTION

Based on advanced computer technology and Internet development, online advertising plays a crucial role in promotional campaigns^{1,2}. However, consumers may think that online advertisements without a traditional interface or familiar endorser are insincere. Therefore, using an endorser to transmit messages may increase consumer confidence toward online advertisements and encourage consumers to purchase products online. Businesses are beginning to use virtual spokescharacters, which are electronically generated endorsers, to promote products and brands; this demonstrates the importance of the Internet in modern life^{3,4,5}.

Callcott and Lee⁶ proposed that animated characters as endorsers can be attractive to audiences. In addition, using virtual spokescharacters to endorse products or brands can strengthen product accents and brand images^{3,7,8}. Unlike spokespeople and movie stars, virtual spokescharacters are created by computer-generated graphics and are not real people⁹; hence, virtual spokescharacters seldom exhibit negative behavior or generate negative publicity. An increasing number of businesses have therefore developed spokescharacters in recent years⁹. In fact, after the late 1800s, many nonhuman characters have become successful endorsers, including human-like spokescharacters such as Stila Girl, Ronald McDonald, and the colonel of Kentucky Fried Chicken, and cartoon-like spokescharacters such as the Poppin' Fresh Pillsbury Doughboy, Fujiya Cake Shop Peko, and the Michelin Man. As company character identities, these spokescharacters have established strong brand recognition and evoke brand concepts of community^{9,10,11,12}.

Previous studies have proven that spokescharacters are related to consumer trust^{8,10,11}. The different face types of spokescharacters produce different consumer perceptions and different degrees of trust. On the Internet, human-like males and cartoon-like females generate more consumer confidence than cartoon-like males and human-like females do⁴. Spokescharacters with actions and a voice can create a deep impression on consumers^{12,13}.

Many studies have demonstrated that different spokescharacter face types produce different reactions in people⁴. These studies have indicated that the visual and audio attributes of spokescharacters influence audience attention toward advertisements¹³. Luo, McGoldrick, Beatty, and Keeling⁴ confirmed that consumers consider human-like male characters and cartoon-like female characters to be more credible than other types of characters on the Internet. In addition, Folse, Netemeyer, and Burton¹¹ found that spokescharacters featured in advertising campaigns can strengthen equity-related constructs that are vital for enhancing consumer-brand relationships. However, these previous studies did not consider the effects of spokescharacter speech synchronization and the interactions among spokescharacters' face type, gender, and speech synchronization. Moreover, few studies have discussed how spokescharacter face types and speech synchronization influence advertising effectiveness. Advertisers frequently use spokescharacters to influence consumer perceptions^{11,12,14}. Ad credibility and audience attention lead to positive impressions^{15,16,17}. Petty and Cacioppo¹⁸ indicated that the effect of endorsers has often been associated with attitude changes, which are connected with an audience's attitude toward the ad. These conclusions indicated that a successful advertising spokescharacter affects advertisement effectiveness in three ways: ad credibility, attention toward the ad, and attitude toward the ad.

Previous studies on advertising campaigns that use spokescharacters have discussed the face type and gender of characters⁴ and confirmed that spokescharacters significantly affect advertisement effectiveness^{19,20,21}. However, these studies have discussed only dubbed advertisements, which are suitable in English or the first language of bilingual international markets²². Studies have seldom included speech synchronization in descriptions of spokescharacters and have seldom discussed the advertisement effect on consumers. It can be seen that there are relatively few studies have tested the role of consumer-virtual spokescharacter relationships in endorsement process. Some questions are lack of detailed exploration. For example, will a certain kind of relational bond between a consumer and a virtual endorser affect the endorsement effectiveness? How do consumers' interactions with a virtual endorser affect their attitude towards the virtual spokescharacter-endorsed advertisement? Will the face type, speech synchronization and gender of the virtual spokescharacter help to produce a relationship with the consumer before affecting his or her advertisement attraction? Does a consumer's relationship with a virtual spokescharacter help to build a relationship with the advertisement? These questions are hindered by a lack of empirical evidence and comprehensive interpretation. Which factors can trigger a preference of the animated spokescharacters in the advertisement

still remained to be determined. The majority of relevant research on animated spokescharacters focuses on the relationships of brands, advertising, and consumption effects, attention to the consumer^{23,24}. To address the research gap, we examined the relationship between advertisement effectiveness (according to ad credibility, attitude toward the ad, and attention toward the ad) and the face type, speech synchronization, and gender of spokescharacters.

There are three objectives of this study: (1) to examine how the face type, speech synchronization, and gender of spokescharacters affect consumer perceptions of online advertisements, (2) to determine the type of spokescharacter that is most suited to online advertising and that produces the most effective advertisements, and (3) to conduct an online advertisement simulation experiment and use an analysis of variance (ANOVA) to analyze the data. The results are expected to help advertisers and company character identities designers create effective spokescharacters and to contribute to relevant studies and future research.

2. LITERATURE REVIEW

2.1 Spokescharacters

Four familiar categories of endorsers are often used in advertising: spokescharacters, celebrities, employees, and customers²⁵. Advertising content and profiles must be adaptable and coordinated to various product and brand demands^{25,26}. Hedonic advertisements with spokescharacters generate more effective promotions and consumer involvement than utilitarian advertisements do^{27,28,29}. Garretson and Burton³⁰ found that spokescharacters can be effective marketing tools. These findings imply that using spokescharacters in hedonic advertisements can create desirable outcomes. The correlation between a spokescharacter's image and a hedonic atmosphere, which might influence advertisement effectiveness, is significant^{31,32}.

Since the eighteenth century, marketers and advertisers have used spokescharacters in promotional campaigns and on product packages to attract consumer interest³³. Exploratory studies have indicated that consumers adore, have confidence in, and even respect spokescharacters³⁴. Spokescharacters are not originally created for animated movies, cartoon programs, or comic strips. Instead, they are created to promote products and brands. Although spokescharacters are not human, they may produce equivalent or even superior advertisement effectiveness^{35,36,37}. In addition, consumers seem to assess the external attributes of spokescharacters as if they were real people, apply their knowledge on spokescharacters³⁸, and

demonstrate favoritism in artwork and animation. Consumers often regard spokescharacters as real people with personalities^{25,37}.

Many studies on spokescharacters have confirmed that spokescharacters are effective in promoting products and are symbolic of brands^{5,29,39,40}. Spears, Möwen, and Chakraborty⁴¹ used the content analysis method to study commercials and advertisements with spokescharacters. Their results indicated that particular types of spokescharacter were usually featured with particular products, and that consumers appeared to accept the spokescharacters with relevance to the advertised products.

In recent years, noncelebrity spokescharacters have appeared more frequently than celebrity characters. The advancement in animation technology may be a cause for the increase in the use of animated spokescharacters⁴². Another reason might be that some advertisers prefer to design their own spokescharacters to create popularity, exclusivity, and, subsequently, brand equity^{5,6}.

Animated characters are increasingly used in the advertisements of international brands. Several modern advertisements appear to use spokescharacters as an alternative to celebrity endorsements. In addition, a benefit of using spokescharacters or animated characters to endorse brands is that there is no need to manage their off-stage behavior^{43,44}.

2.2 Human-like versus cartoon-like characters

Some researchers have indicated that spokescharacters with human or cartoon appearances have different effects on an audience's attitude and responses toward online advertisements^{35,37,45}. Spokescharacter face types might be a crucial factor for credibility and consumer acceptance⁴⁵, which influence consumer purchase intentions⁴⁶.

Furthermore, Takeuchi and Nagao⁴⁷ indicated that consumers are more likely to connect with spokescharacters that have face types that to those that do not have face types on a computer interface. Lester et al.⁴⁸, McBreen and Jack⁴⁹ and Walker et al.⁵⁰ have stated that onscreen characters with a strong visual presence and face type are more likely to engage consumers watching online advertisements.

When watching advertisements produced only by computer programs, consumers may be more patient with the limitations of cartoon characters and have lower expectations of them than other type of spokescharacters⁴⁵. Using animated characters is therefore an effective method for reducing consumer expectations regarding the conversational abilities of spokescharacters⁴⁵. Masterton⁵¹ claimed that consumers are

more likely to accept advertisements with a degree of anthropomorphism than advertisements with full personification. This is because consumers might lower their expectations of a cartoon-like character's communication abilities because of current technical limitations^{52,53}. Thus, cartoon-like spokescharacters might be more suitable for an online interface than completely human-like spokescharacters⁴⁹.

2.3 Online advertising

One of the major challenges in advertising is to provide different tangible elements in electronic marketing⁵⁴. Advertisers use various strategies to achieve tangibility, including visualization of qualities or consumer benefits; relevance to an additional product, person, affair, place, or object; physical performance of the service; and facts or explanations regarding service characteristics⁵⁴. Spokescharacters strengthen tangibility and create a point of difference by attracting attention^{55,56}.

Using the spokescharacter to promote a product or brand image is challenging because the spokescharacter might not become a suitable representation of advertisements in the defining visual cues. An effective advertising campaign depends on suitable spokescharacters that deliver a convincing message through adaptable media. Creating an effective spokescharacter is a complex process based on the need to increase advertising effectiveness (ad credibility, attention toward the ad, and attitude toward the ad) and to tailor the characteristics of the spokescharacter to product and brand images^{20,25}.

Three dimensions, which may be complementary, are usually used to measure advertisement effectiveness: ad credibility, attention toward the ad, and attitude toward the ad. We examined the effects of different face types, gender, and speech synchronization on these three dimensions of advertisement effectiveness and also analyzed their interdependencies.

2.4 Ad credibility

Many variables affect consumer trust toward advertisement spokescharacters. Research has shown that character nostalgia and expertise influence consumer trust in spokescharacters^{13,34,57}. Character nostalgia is a positively valenced complex feeling, emotion, or mood produced by reflection on things (objects, persons, experiences, ideas) associated with the past.

Spokescharacters are often beneficial to brands, especially when introducing new brands or original products⁵⁸. Spokescharacters have also

been used to help brands conform to consumer expectations^{57,59}. In addition, spokescharacters can facilitate effective brand and advertisement recall³⁵. Ad credibility is defined as the consumer perceives claims which made the brand in the ad to be truthful and believable⁶⁰. Generally, credible sources created by spokescharacters are persuasive in communications terms⁶¹. Several studies have indicated that credible spokescharacters are more accepted in unfavorably inclined audiences²⁹. However, these spokescharacters should be employed for favorably inclined audiences as well^{59,62}. When spokescharacters appropriately deliver the intended message, they increase the audience reception of an advertisement²⁹.

Research on the face type of spokescharacters demonstrated a clear connection between physical design factors and elicited emotions. Character credibility can be successfully developed and established in the first consumer–character interaction. Therefore, a consumer’s first impressions of a spokescharacter may strongly affect the character’s credibility, and the graphic elements of a spokescharacter’s face type are the most likely to convey credibility in online applications^{4,12,63}. Hence, this study proposed the following hypothesis:

H1a: The face type of spokescharacters influences online ad credibility.

Many character speech-synchronization applications may be used in Internet activities, video communications, and virtual reality. Some of them include accurate face illustrations of intelligent talking agents, interactive gaming, automatic film dubbing, and compression of facial images for video communication⁶⁴. Moreover, a major emphasis in online advertising is credibility. Only when online activities are credible can they amplify the effect of advertisements.

Isbister and Nass⁶⁵ suggested that people prefer and trust spokescharacters with personalities that are similar to their own. Studies have discussed the relationship between spokescharacters and consumer trust^{10,11}. Women are more likely to consider credibility, security, and confidentiality as crucial elements in building a desirable online relationship than men. Kolsaker and Payne⁶⁶ suggested that both men and women take equal notice of security in the general environment; however, different genders of spokescharacters on a website influence consumer preference⁶⁷. The gender of a virtual character influences the perceptions of computer users, especially regarding trustworthiness⁴. Hence, the gender of spokescharacters might affect ad credibility. This study proposed the following hypothesis:

H1b: The gender of spokescharacters influences online ad credibility.

Neeley and Schumann¹³ proposed that the speech synchronization of spokescharacters increases advertisement familiarity and is therefore a vital factor in consumers' preferences and choices for products and brands. Therefore, speech synchronization is still regarded as a vital feature of spokescharacters, and it is especially vital for the credibility of Internet advertising. This study proposed the following hypothesis:

H1c: The speech synchronization of spokescharacters influences online ad credibility.

2.5 Attitude toward the ad

Chaiken⁶⁸ confirming that the physical face type of characters influences consumer attitude showed that attractive communicators are generally adept at persuading consumers. However, Berry and McArthur⁶⁹ indicated that facial babyishness is an element that has a strong influence on consumer impressions. Mature-looking communicators are more persuasive than baby-faced communicators when expertise is in doubt⁷⁰. Therefore, the attitude toward the ad might be influenced by the physical characteristics of characters, including the face type¹⁹ of both human-like and cartoon-like characters. This study proposed the following hypothesis:

H2a: The face type of spokescharacters influences the attitude toward online ads.

Males and females appear to exhibit different attitudes and behaviors toward online advertisements^{71,72}. Based on the theory of attraction between heterosexuals, men are more likely to connect with female characters in advertisements and have a positive attitude toward them. By contrast, women tend to respond more positively to male characters. Thus, character designers must consider the type of message a male character and female character can deliver to male and female consumers. This study proposed the following hypothesis:

H2b: The gender of spokescharacters influences the attitude toward online ads.

Consumers usually have a more positive attitude toward audiovisual advertisements than toward video-only advertisements^{29,73}. Particular accents in speech synchronization may create different consumer perceptions⁶⁴. For example, some consumers may consider an adult voice to be featureless but still persuasive. Therefore, each type of speech synchronization, including child voices and adult voices, generates different attitudes toward an advertisement. This study proposed the following hypothesis:

H2c: The speech synchronization of spokescharacters influences the attitude toward online ads.

2.6 Attention toward the ad

In some situations, people may be attracted by a character but not take it seriously, especially in utilitarian advertisements. Some characters may be attractive but not inspire credibility¹². Audience attention may be related to consumer impressions of a character's appearance; moreover, opinions of spokescharacters may differ according to levels of attention^{36,74}. Using spokescharacters can impress audiences and attract their attention, especially in hedonic advertisements^{6,19,35}.

Some communication studies on children and television have suggested that an audiovisual format may achieve an attention from children. Because of the interaction between visual and verbal factors, different animation characteristics such as visual actions and sound effects can consistently increase the attention of preschool-aged children^{75,76,77}.

However, spokescharacters and animated advertisements attract adults as well as children⁹. Moreover, the face types of spokescharacters (e.g., human-like and cartoon-like) may capture varying degrees of attention⁶. Generally, cartoon-like spokescharacters attract more attention than other types because they are not human⁷⁸. Hence, this study proposed the following hypothesis:

H3a: The face type of spokescharacters influences attention toward online ads.

Researchers have indicated that the ability of audiovisual information to attract attention is affected by message stimulus complexity^{79,80,81}. Visual complexity is typically ascribed to the presence of numerous objects or movements in a visual scan^{80,81,82,83}. Auditory complexity is traditionally characterized by many changes in sounds that are heard through the aural channel^{80,84}. When advertisers engage in commercials, they often produce colorful, action-oriented animated spokescharacters with elaborate voices and sound effects¹³.

The difference in spokescharacter gender is more obvious when message cues attract more attention⁸⁵. Marketers find the gender of spokescharacters interesting for several reasons. A study showed that gender segmentation may be effective even when male and female audiences have similar interest and knowledge in the message of an advertisement⁴. Spokescharacters receive varying levels of attention according to differences in consumer gender⁶⁷. Therefore, when advertisers design spokescharacters, the gender of the spokescharacters

should be considered seriously. This study proposed the following hypothesis:

H3b: The gender of spokescharacters influences attention toward online ads.

Speech synchronization is essential in multimedia applications, and it involves synchronizing the movements of a spokescharacter's lips with the spoken voice. The results of a previous study suggested that the interaction between aural and visual media is strong⁸⁶. A child voice combined with an adult-like face and an adult voice combined with a cartoon-like face are obviously contrasting combinations that might generate attention. Hence, this study proposed the following hypothesis:

H3c: The speech synchronization of spokescharacters influences attention toward online ads.

3. METHOD

3.1 The conceptual framework of the study

This study focused on three dimensions that might influence ad credibility and an audience's attitude and attention toward an advertisement with spokescharacters:

- (1) a spokescharacter's face type (human-like or cartoon-like)
- (2) a spokescharacter's gender (male or female)
- (3) a spokescharacter's speech synchronization (adult voice or child voice)

These three spokescharacter dimensions can generate eight types of character: human-like/female/adult voice (HFA), human-like/female/child voice (HFC), human-like/male/adult voice (HMA), human-like/male/child voice (HMC), cartoon-like/female/adult voice (CFA), cartoon-like/female/child voice (CFC), cartoon-like/male/adult voice (CMA), and cartoon-like/male/child voice (CMC).

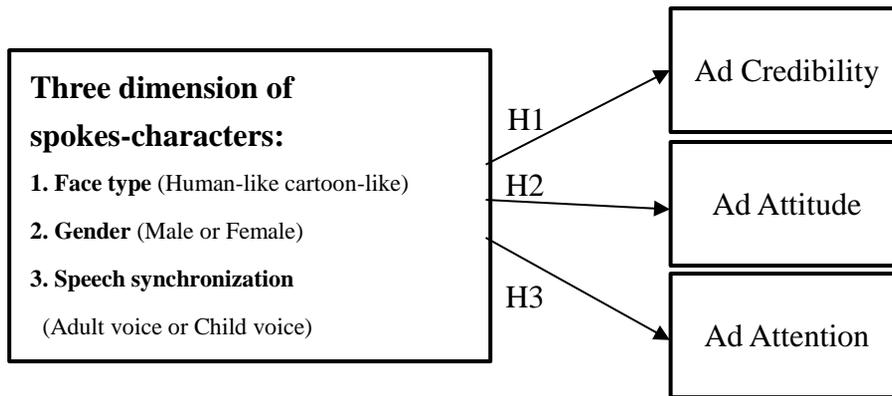


Figure 1. Conceptual model

Figure 1 shows the three dimensions of spokescharacters, namely face type, speech synchronization, and gender that might influence advertisement effectiveness.

3.2 Pretest

This study involved virtual spokescharacter design, advertising scenario writing, questionnaire design, and conducting a pretest as well as reliability and validity tests. On the basis of face types and gender factors, the experiment in this study involved four types of spokescharacters. To select the most adaptable characters for this experiment, a pretest was necessary.

To ensure that the test was fair and comparable, the similarities of the character styles were measured at the character design stage. Care was taken to ensure that respondents received equal amounts of information on all characters. In addition, differences between the characters were considered in the design stage to provide a range for selection.

The pretest involved administering a questionnaire addressing four character types. Four characters were created for each type; hence, a total of 16 characters were designed using Adobe Photoshop 7.0. Figure 2 depicts the 16 characters used to collect data on the degree of fit between respondents' perceptions of each spokescharacter and an advertisement scenario.

3.3 Selection of spokescharacters and speech synchronization

To ensure that the virtual spokescharacters' traits were consistent with respondents' cognitions, the respondents selected the most appropriate character for the advertisement script. The respondents selected one character from each category. These four characters represented each type of spokescharacter investigated in this study and were tested at the next stage of the experiment.

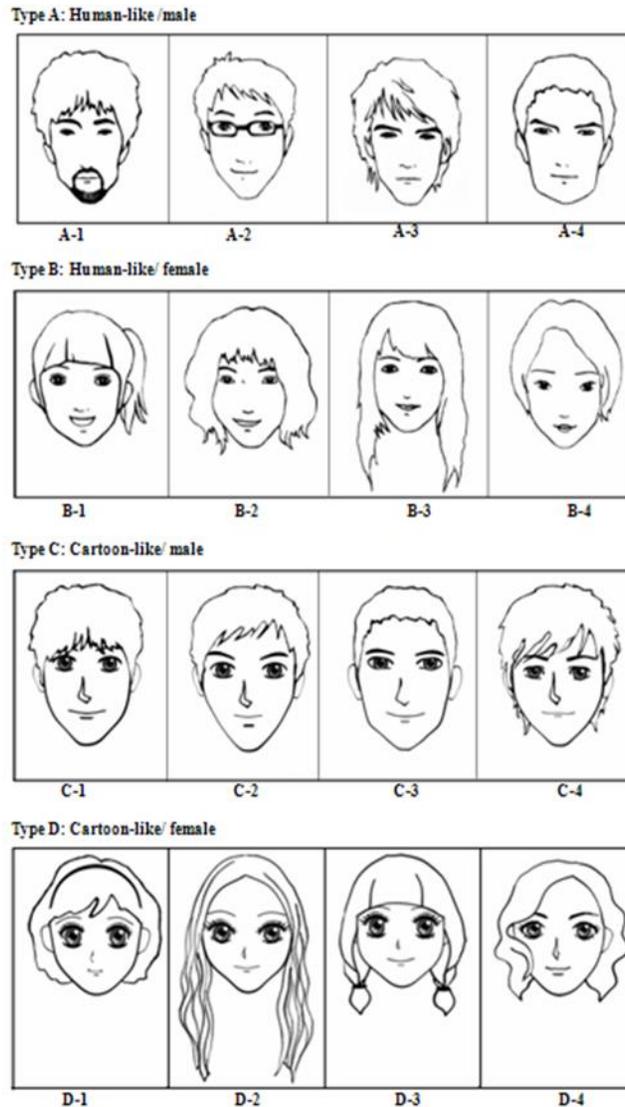


Figure 2. 16 Spokes-characters

A total of 50 Internet users were invited to join the pretest. Depending on the results of the pretest, four characters (A-3, B-3, C-4, and D-2) were selected from the original 16. They represented each type of spokescharacter in this study. The four spokescharacters' images are displayed in Figure 3.

To match speech synchronization with each spokescharacter and the advertisement scenario, several voice actors were solicited from an Internet community of lip-syncing fans and experts named "TWvoice" to optimize speech synchronization. The voice actors recorded an adult or child voice for each spokescharacter. Each spokescharacter was integrated into eight advertisements that were tested in the next stage of the experiment.

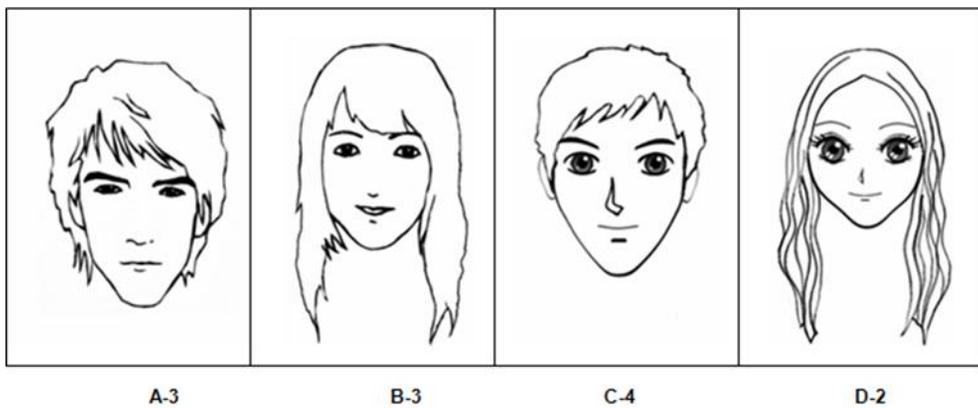


Figure 3. Four Spokes-characters selected from the pretest

3.4 Research design and procedure

Eight advertisements were produced using animation, background music, and speech synchronization, and an online questionnaire survey was conducted.

The primary research technique in this study was the quantitative method. To produce a realistic experiment, eight advertisements with identical messages but different spokescharacters were created to examine the online advertisement effectiveness of the spokescharacters. The advertisement content was fabricated by a simulated journey agency named "Happiness Travel." The advertisement scenario was a journey of a person encountering their lover. The advertisement advocated that people can meet their "Mr. Right" or "Ms. Right" by going on a journey. The advertisement used a 2D animation that was designed using Sony Vegas 5.0 and Adobe Photoshop.

The test advertisement was inserted in a Vlog, which is a video blog that usually displays supporting text, images, and additional metadata. Eight advertisements were shown in the Vlog, "I' mtv". Each respondent was asked to connect to the website and watch the advertisements in the Vlog. The respondents then completed the online questionnaire on advertisement effectiveness. Moreover, because the experiment subject was online advertisement, all respondents were Internet users. The sample comprised college students, young employees, and unmarried people, who are attracted more easily by the idea of finding true love than children and older people.

3.5 Measures

For consistency, all responses were measured using a Likert scale, where 1 = strongly disagree, 4 = neutral, and 7 = strongly agree. The questionnaire comprised four parts. The first part contained measurements of ad credibility; the second part measured attitude toward the ad, and the third part measured attention toward the ad. The final part gathered descriptive data on the respondents (including age, gender, network experience, and the amount of time they spend on the Internet per day).

Credibility is the extent to which the information in an advertisement is trustworthy and was measured according to perception, belief, and bias⁸⁷. Some researchers have considered ad credibility as the perception of ad trustworthiness. This study used the measure developed by MacKenzie and Lutz⁸⁷, which is a three-item scale measuring the degree to which an advertisement is convincing, believable, and unbiased.

Regarding attitude toward the ad, this study adopted the three-item measure developed by MacKenzie and Lutz⁸⁷, which assesses the degree to which an advertisement is good, pleasant, and favorable.

To measure attention toward the ad, this study used the measures developed by Chang and Thorson¹⁵ measures, including "the advertisement caught my interest" and "I paid close attention to the advertisement," to measure respondent attention toward the ad.

3.6 Data collection

The respondents were sampled from a population of volunteer Internet users, and the main subjects were selected using the purposive sampling method. Because our advertisement scenario was designed to encourage people to pursue romantic love by going on a journey, unmarried college students and young employees constituted our major respondents.

The respondents visited a Vlog site called "I' mtv" and were randomly assigned to watch one of the eight advertisements. They then provided demographic information in the questionnaire. Everyone had to leave the email account and cell phone number to ensure or verify that no duplicative participation. In total, 700 questionnaires were received; 36 invalid samples who are under 18 years old or had married were excluded, and the remaining 664 (94.9%) questionnaires were used for analysis. Of the 664 respondents, 337 were men (50.8%) and 327 were women (49.2%). The age range was skewed toward younger groups, reflecting the age tendency for Internet use^{4,88}: 18–24 years (N = 386; 58.1%); 25–34 years (N = 226; 34.0%); 35–44 years (N = 29; 4.4%); and 45 years and older (N = 23; 3.5%). Most respondents (92.1%) were aged younger than 35 years. The average Internet experience was 4.8 years, and the average Internet use time was 5.4 hrs. per day.

4. RESULTS AND ANALYSIS

4.1 Descriptive statistics, reliability, and validity

Descriptive statistics for eight spokescharacters including the sample size, mean, and standard deviation are provided in Table 1. Data were analyzed using SPSS 10.0 for Windows to examine the reliability, validity, and descriptive statistics. The samples for HFA, HFC, HMA, HMC, CFA, CFC, CMA, and CMC spokescharacters consisted of 83, 78, 82, 81, 90, 75, 92, and 83 respondents, respectively.

Table 1. Descriptive statistics on eight spokes-characters by group

D.V.	AD Credibility		AD Attitude		AD Attention		
	N	Mean	S.D.	Mean	S.D.	Mean	S.D.
HFA	83	3.93	1.24	4.51	1.40	4.14	1.53
HFC	78	3.95	1.10	4.60	1.39	3.99	1.44
HMA	82	3.85	1.30	4.51	1.41	3.86	1.51
HMC	81	4.07	1.17	4.72	1.32	4.08	1.47
CFA	90	4.12	1.33	4.62	1.33	4.15	1.56
CFC	75	4.55	1.20	4.98	1.48	4.53	1.61
CMA	92	4.17	1.17	4.70	1.26	4.19	1.51
CMC	83	4.16	1.29	4.61	1.33	4.00	1.61

All reliability scores (Cronbach's α) for credibility, attitude, and attention were above 0.8 (Table 2), indicating that the measurements had high reliability.

Table 2. Scales items and reliability coefficients

	Scale items ^a	Cronbach's α							
		HFA	HFC	HMA	HMC	CFA	CFC	CMA	CMC
Credibility	1.Convincing								
	2.Believable	0.86	0.84	0.93	0.87	0.91	0.89	0.88	0.86
	3.Unbiased								
Attitude	1.Good								
	2.Pleasant	0.88	0.94	0.89	0.87	0.90	0.94	0.91	0.92
	3.Favorable								
Attention	1. The advertisement caught my interest.	0.84	0.81	0.89	0.85	0.80	0.91	0.89	0.84
	2. I paid close attention to the advertisement.								

Note: ^a Rated on scale from 1 (strongly disagree) to 7 (strongly agree)

Table 3 shows that the correlations between paired constructs were significantly positive and lower than 1; thus, the scale met the discriminate validity criterion suggested by Bagozzi, Yi, and Phillips⁸⁹ and Segars and Grover⁹⁰.

Table 3. Correlations of the constructs

Constructs	AD Credibility	AD Attitude
AD Attitude	0.695**	
AD Attention	0.664**	0.715**

4.2 Hypotheses testing

A multivariate statistical analysis and ANOVA were performed to explore differences in the ad credibility, attitude toward the ad, and attention toward the ad elicited by the eight spokescharacters. A three-way ($2 \times 2 \times 2$) ANOVA was conducted to analyze the effects of spokescharacters' face type, gender, and speech synchronization on each dependent variable. The complete results are shown in Table 4.

The first hypothesis comprised H1a, H1b, and H1c. The ANOVA showed that the face type ($F = 9.817, p < .001$) and speech synchronization ($F = 3.020, p < .01$) of spokescharacters had a significant positive influence on ad credibility. H1a and H1c were supported. The test also showed that the gender of spokescharacters did not significantly influence online ad credibility ($F = 0.602, p = .438$). H1b was not supported.

The second hypothesis comprised H2a, H2b, and H2c. The test showed that the face type ($F = 1.737, p = .188$), gender ($F = 0.164, p = .686$), and speech synchronization ($F = 1.832, p = .176$) of spokescharacters did not significantly influence attitude toward the online ad. H2a, H2b, and H2c were not supported. However, each group's mean score for attitude toward the ad was above the medium (4; Table 1). This result demonstrated that the audience still had a positive attitude toward these advertisements and was consistent with that reported in a previous study²⁵.

The third hypothesis comprised H3a, H3b, and H3c. The test showed that the face type of spokescharacters positively influenced attention toward the online ad ($F = 2.830, p < .01$), but the gender ($F = 1.992, p = .159$) and speech synchronization ($F = 0.288, p = .592$) of spokescharacters did not. H3a was supported, but H3b and H3c were not supported.

The interaction effect (facial appearance \times gender \times lip-synchronization) was also positively influences ad credibility ($F = 2.890, p < .01$) and ad attention ($F = 3.890, p < .01$).

A least significant difference (LSD) post hoc analysis revealed the mean differences in ad credibility between CFC characters and all other characters. The mean differences in attitude toward the ad occurred among CFC, HFA, and HMA characters. Differences in attention toward the ad were evident among CFC, HFC, HMA, and CMC characters. The aforementioned findings are summarized in Table 5, and no mean differences among spokescharacters were observed.

Table 4. ANOVA results

Dependent variable	Sources of variation	DS	MS	F-value
AD Credibility	Face type	1	14.80	9.82***
	Speech-synchronization	1	4.55	3.02**
	Gender	1	0.91	0.60
	FA*SS	1	0.34	0.22
	FA*Gen	1	1.37	0.91
	SS*Gen	1	0.57	0.38
	FA*SS*Gen	1	4.35	2.89**
AD Attitude	Face type	1	3.23	1.74
	Speech-synchronization	1	3.40	1.83
	Gender	1	0.30	0.16
	FA*SS	1	3.20	0.00
	FA*Gen	1	1.82	0.98
	SS*Gen	1	1.70	0.63
	FA*SS*Gen	1	3.42	1.85
AD Attention	Face type	1	6.63	2.83**
	Speech-synchronization	1	0.68	0.29
	Gender	1	4.67	1.99
	FA*SS	1	0.14	0.06
	FA*Gen	1	0.93	0.40
	SS*Gen	1	0.39	0.17
	FA*SS*Gen	1	9.11	3.89**

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; FA=Face type; SS=Speech-synchronization;
Gen=Gender

Table 5. Results of the LSD post hoc analysis on spokes-characters

AD Credibility	HFA M=3.93	HFC M=3.95	HMA M=3.85	HMC M=4.07	CFA M=4.12	CFC M=4.55	CMA M=4.17	CMC M=4.16
HFA M=3.93								
HFC M=3.95								
HMA M=3.85							-0.33	-0.32
HMC M=4.07								
CFA M=4.12								
CFC M=4.55	0.62**	0.60**	0.70**	0.48*	0.43*		0.38*	0.39*
CMA M=4.17								
CMC M=4.16								
AD Attitude	HFA M=4.51	HFC M=4.60	HMA M=4.51	HMC M=4.72	CFA M=4.62	CFC M=4.98	CMA M=4.70	CMC M=4.61
HFA M=4.51								
HFC M=4.60								
HMA M=4.51								
HMC M=4.72								
CFA M=4.62								
CFC M=4.98	0.47*	0.38	0.47*			0.37		0.38
CMA M=4.70								
CMC M=4.61								
AD Attention	HFA M=4.14	HFC M=3.99	HMA M=3.86	HMC M=4.08	CFA M=4.15	CFC M=4.53	CMA M=4.19	CMC M=4.00
HFA M=4.14								
HFC M=3.99								
HMA M=3.86								
HMC M=4.08								
CFA M=4.15								
CFC M=4.53		0.54*	0.67**	0.44				0.53*
CMA M=4.19								
CMC M=4.00								
Note: *=Statistically significant ($p < 0.05$; ** $p < 0.01$; *** $p < 0.001$); means differences between spokes-characters								

5. DISCUSSION AND CONCLUSION

This study provides insight regarding the factors that influence the positive impact of spokescharacters on advertisement effectiveness. In summary, H1 and H3 were partially supported, but H2 was not supported. The findings complement prior research illustrating the effect of spokescharacter type on advertisements. It demonstrated that face type positively influences ad credibility and attention toward the ad, and speech synchronization positively influences ad credibility. In addition, the interaction effect (face type \times gender \times speech synchronization) positively influences ad credibility and attention toward the ad. Convincing the audience to believe the content of an advertisement is undoubtedly essential to increasing promotion effectiveness. However, an effective advertisement must first attract an audience's attention before it can proceed to establish ad credibility. Although spokescharacters' face type, gender, and speech synchronization did not influence attitude toward the ad in this study, the respondents generally had a positive attitude toward the advertisements.

The results of the LSD post hoc test revealed that cartoon-like spokescharacters increase ad credibility and attention toward the ad more than human-like spokescharacters do. Spokescharacters with a child voice attract more attention toward the ad than spokescharacters with an adult voice do.

5.1 Contributions and implications

This research offers three distinct contributions. First, this study simultaneously examined the effects of the face type, gender, and speech synchronization of spokescharacters on consumer perceptions of online advertising according to ad credibility, attitude toward the ad, and attention toward the ad. Although attitude toward the ad is not affected by the face type, gender, and speech synchronization of spokescharacters, audiences still have a positive attitude toward advertisements containing spokescharacters. Many prior studies have confirmed that celebrities and spokespeople can generate positive attitudes toward an ad^{12,25,63,91,92,93,94}, but have less directly demonstrated that spokescharacters elicit desirable attitudes toward an ad. The results of this study suggest that using spokescharacters in advertisements positively affects ad effectiveness. The different characteristics of spokescharacters elicits different levels of ad credibility and attention toward the ad.

Second, this study revealed that spokescharacters with a cartoon-like face type and child-voice speech synchronization generate more ad credibility and attention toward the ad. In addition, female

spokescharacters produce positive attitudes toward an ad. Because credibility, attitude, and attention are essential elements of advertisement effectiveness, these results implied that cartoon-like female spokescharacters with a child voice (CFC) should be designed to increase the effectiveness of hedonic online advertisements.

Third, this study designed an online advertisement simulation experiment. Several studies^{49,95} have discovered that people prefer interacting with onscreen characters that exhibit a human-like face type. Luo, McGoldrick, Beatty, and Keeling⁴ confirmed that the gender of a spokescharacter as well as its face type affect consumer trust. However, although transmitting messages by voice is crucial to the success of virtual spokescharacters in advertisements, speech synchronization was insufficiently explored in previous research. Because of the lack of related studies, speech synchronization was integrated into this work. The results suggest that the interaction effect of spokescharacters' speech synchronization, face type, and gender influences online advertisement effectiveness.

5.2 Conclusion

In summary, this study was the first to examine the effects of virtual spokescharacters' speech synchronization, face type, and gender on consumer perceptions of online advertisements. Experiments were conducted to examine the respondents' reaction toward the ad with regard to the multiple factors of the eight spokescharacters. The results of this study suggested that the interaction effect of spokescharacters' speech synchronization, face type, and gender influenced ad credibility and attention toward the ad. Moreover, a female cartoon-like spokescharacter with a child voice (CFC) was determined to be the most adaptable spokescharacter type for online advertisements. Although more research is necessary to clarify the effects of virtual spokescharacters, the results may help advertisers and company character identities designers create virtual spokescharacters as well as contribute to relevant studies and future research.

5.3 Limitations and suggestions for future research

The study had several limitations. First, many prior studies have suggested that spokescharacters are more useful for hedonic advertisements, which were used in this study, than utilitarian advertisements²⁵; hence, future studies should compare the advertisement effectiveness of spokescharacter types in hedonic advertisements with that of spokescharacter types in utilitarian advertisements. Second, the study used a single ad with a single scenario and message designed for a

hypothetical travel agency; hence, the results might be affected by the respondents' individual biases. Other advertising contents, topics, or scenarios are worth examining in future research. Third, Human-like characters may be more professional. Female characters may be more attractive and friendly. Child-like may be more trustworthy and likeable. However, no any pilot studies are implemented to check whether the chosen materials, i.e., A-3, B-3, C-4, and D-2 are the same (at least insignificant) in any (or some) of the already-known factors, i.e., professional image, attractiveness, friendliness, trustworthiness, and/or likeability, although the respondents were considered acceptable for this type of experimental research, prospective study should use a national and cross-sectional sample. Fourth, the study broadcasted advertisements on the Internet (I' mtv), which is a suitable media for virtual spokescharacters⁴; however, endorsers (e.g., celebrities, spokesperson, or mascot) may suit different media for different advertisements. Future research can test various spokescharacter types by using different media. Finally, this study only focused on adult voices and child voices for voice discrimination of spokescharacters; other factors such as emotion, tone of voice, and background music probably influence audience perceptions as well.

6. REFERENCES

- [1] K. S. Burns, and R. J. Lutz, Format: Consumer responses to six on-line advertising formats. *Journal of Advertising*, 35(1), p53-63, 2006. <https://doi.org/10.2753/JOA0091-3367350104>.
- [2] S. Athey, E. Calvano, and J. Gans, The impact of the internet on advertising markets for news media (No. w19419). *National Bureau of Economic Research*, 2013. <https://doi.org/10.3386/w19419>.
- [3] B. Phillips, and W. N. Lee, Interactive animation: Exploring spokes-characters on the Internet. *Journal of Current Issues and Research in Advertising*, 27(1), p1-17, 2005. <https://doi.org/10.1080/10641734.2005.10505170>.
- [4] J. T. Luo, P. McGoldrick, S. Beatty, and K. A. Keeling, On-screen characters: Their design and influence on consumer trust. *Journal of Services Marketing*, 20(2), p112-124, 2006. <https://doi.org/10.1108/08876040610657048>.
- [5] D. H. Kim, S. Kim, & D. Song, Can Pokémon GO catch brands? The Fit effect of game characters and brands on efficacy of brand communications. *Journal of Marketing Communications*, 2018. <https://doi.org/10.1080/13527266.2018.1471614>.
- [6] M. F. Callcott, and W. N. Lee, A content analysis of animation and animated spokes-characters in television commercials. *Journal of*

- Advertising*, 23(4), p1-12, 1994.
<https://doi.org/10.1080/00913367.1943.10673455>.
- [7] A. L. Brown, I. Anitsal, M. M. Anistal, and K. Liska, Ollie Otter safety Mascot: Use of a spokes-character for a nonprofit campaign. *Proceedings of the Allied Academies Int. Conference*, p7, 2010.
- [8] A. Kassymbayeva, The impact of spokes-characters on customer loyalty. *International Journal of Business and Management*, 12(7), p162-173, 2017. <https://doi.org/10.5539/ijbm.v12n7p162>
- [9] J. A. Garretson, and R. W. Niedrich, Spokes-characters : Creating character trust and positive brand attitudes. *Journal of Advertising*, 33(2), p25-36, 2004.
<https://doi.org/10.1080/00913367.2004.10639159>.
- [10] H. L. Liao, S. H. Liu, S. M. Pi, and Y. C. Liu, Talk to me: A preliminary study of the effect of interaction with a spokes-character. *African Journal of Business Management*, 5(13), p5356-5364, 2011.
<https://doi.org/10.5897/AJBM11.180>.
- [11] J. A. G. Folse, R. G. Netemeyer, and S. Burton, Spokescharacters. *Journal of Advertising*, 41(1), p17-32, 2012.
<https://doi.org/10.2753/JOA0091-3367410102>.
- [12] S. Hosany, G. Prayag, D. Martin, and W. Y. Lee, Theory and strategies of anthropomorphic brand characters from Peter Rabbit, Mickey Mouse, and Ronald McDonald, to Hello Kitty. *Journal of Marketing Management*, 29(1-2), p48-68, 2013.
<https://doi.org/10.1080/0267257X.2013.764346>.
- [13] S. M. Neeley, and D. W. Schumann, Using animated spokes-characters in advertising to young children: Does increasing attention to advertising necessarily lead to product preference? *Journal of Advertising*, 33(3), p7-23, 2004.
<https://doi.org/10.1080/00913367.2004.10639166>.
- [14] R. E. Goldsmith, B. A. Lafferty, and S. J. Newell, The impact of corporate credibility and celebrity credibility on consumer reaction to advertisements and brands. *Journal of Advertising*, 29(3), 43-54, 2000. <https://doi.org/10.1080/00913367.2000.10673616>.
- [15] Y. Chang, and E. Thorson, Television and Web advertising synergies. *Journal of Advertising*, 33(2), p75-84, 2004.
<http://dx.doi.org/10.1080/00913367.2004.10639161>.
- [16] N. Purnawirawan, N. Dens, and P. De Pelsmacker, Balance and sequence in online reviews: The Wrap effect. *International Journal of Electronic Commerce*, 17(2), p71-98, 2012.
<https://doi.org/10.2753/JEC1086-4415170203>.
- [17] S. Si, and M. Kapoor, Advertising Effectiveness on Consumer Decision Making & Decision Making: Study of Insurance Industry. *International Journal of Advancements in Research & Technology*,

- 3(1), 83-94, 2014.
- [18] R. E. Petty, and J. T. Cacioppo, *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag, 1986.
- [19] Y. K. Choi, and J. G. Lee, The persuasive effects of character presence and product type on responses to advergames. *Cyberpsychology, Behavior, and Social Networking*, 15(9), p503-506, 2012. <https://doi.org/10.1089/cyber.2012.0012>.
- [20] J. A. G. Folse, S. Burton, and R. G. Netemeyer, Defending brands: Effects of alignment of spokescharacter personality traits and corporate transgressions on brand trust and attitudes. *Journal of Advertising*, 42(4), p331-342, 2013. <https://doi.org/10.1080/00913367.2013.795124>.
- [21] Reavey, M. Puzakova, T. L. Andras, and H. Kwak, The multidimensionality of anthropomorphism in advertising: The moderating roles of cognitive busyness and assertive language. *International Journal of Advertising*, 37(3), p440-462, 2018. <https://doi.org/10.1080/02650487.2018.1438054>.
- [22] A. Caruana, and M. Abdilla, To dub or not to dub: Language adaptation of global television advertisements for a bilingual community. *Journal of Brand Management*, 12(4), p236-249, 2005. <https://doi.org/10.1057/palgrave.bm.2540220>.
- [23] M. Lagomarsino, and L. S. Suggs, Choosing imagery in advertising healthy food to children. *Journal of Advertising Research*, 58(4), p487-498, 2018. <https://doi.org/10.2501/JAR-2018-003>.
- [24] B. Leonard, M. C. Campbell, and K. C. Manning, Kids, caregivers, and cartoons: The impact of licensed characters on food choices and consumption. *Journal of Public Policy & Marketing*, 2019. <https://doi.org/10.1177/0743915619827919>.
- [25] M. R. Stafford, T. F. Stafford, and E. Day, A contingency approach: The effects of spokesperson type and service type on service advertising perceptions. *Journal of Advertising*, 31(2), p17-34, 2002. <https://doi.org/10.1080/00913367.2002.10673664>.
- [26] C. Tripp, Services advertising: An overview and summary of research: 1980-1995. *Journal of Advertising*, 26(4), p21-38, 1997. <https://doi.org/10.1080/00913367.1997.10673533>
- [27] S. Shavitt, Evidence for predicting the effectiveness of value expressive versus utilitarian appeals: A reply to Johar and Sirgy. *Journal of Advertising*, 21(2), p47-51, 1992. <https://doi.org/10.1080/00913367.1992.10673367>.
- [28] K. L. Wakefield, and J. H. Barnes, Retailing hedonic consumption: A Model of sales promotion of a leisure service. *Journal of Retailing*, 72(4), p409-427, 1996.

- [https://doi.org/10.1016/S0022-4359\(96\)90021-4](https://doi.org/10.1016/S0022-4359(96)90021-4).
- [29] H. Kyung, O. Kwon, and Y. Sung, The effects of spokes-characters' personalities of food products on source credibility. *Journal of Food Products Marketing*, 17(1), p65-78, 2010. <https://doi.org/10.1080/10454446.2011.532402>.
- [30] J. A. Garretson, and S. Burton, The role of spokes-characters as advertisement and package cues in integrated marketing communications. *Journal of Marketing*, 69(4), p118-132, 2005. <https://doi.org/10.1509/jmkg.2005.69.4.118>.
- [31] P. Chandon, B. Wansink, and G. Laurent, Hedonic and utilitarian consumer benefits of sales promotions. *Marketing Science Institute Working Paper*, p99-109, Cambridge, MA: MSI, 1999.
- [32] J. S. Johar, and M. J. Sirgy, Value expressive versus utilitarian advertising appeals: When and why to use which appeal. *Journal of Advertising*, 20(3), p23-33, 1991. <https://doi.org/10.1080/00913367.1991.10673345>.
- [33] M. F. Callcott, *The Spokes-Character in Advertising: An Historical Survey and Framework for Future Research*, Ph.D. diss., University of Texas, 1993.
- [34] M. F. Callcott, and B. J. Phillips, Observations: Elves make good cookies: Creating likable spokes-character advertising. *Journal of Advertising Research*, 36(5), p73-79, 1996.
- [35] Z. Glass, The effectiveness of product placement in video games. *Journal of Interactive Advertising*, 8(1), p23-32, 2007. <https://doi.org/10.1080/15252019.2007.10722134>.
- [36] W. S. Huang, T. F. Hsieh, and H. S. Chen, The advertisement effectiveness of animated spokes-characters. *African Journal of Business Management*, 5(23), p9971-9978, 2011. <https://doi.org/10.5897/AJBM11.1761>.
- [37] M. Delbaere, E. F. McQuarrie, and B. J. Phillips, Personification in advertising. *Journal of Advertising*, 40(1), p121-130, 2011. <https://doi.org/10.2753/JOA0091-3367400108>.
- [38] G. W. Gilmore, *Animism*. Boston: Marshal Jones, 1919. <https://doi.org/10.1509/jmkg.2005.69.4.118>.
- [39] S. M. Neeley, W. Macias, T. M. Clark, and W. N. Lee, Advertising spokes-character attributes and the use relationships. In Inman, J., Tepper, J., and Whittler, T. (eds.), *Proceedings of the 2000 Society of Consumer Psychology Conference* (p94-99), San Antonio, 2000.
- [40] B. J. Phillips, Advertising and the cultural meaning of animals. In Kim C. and John L. (eds.), *Advances in Consumer Research*, 23, p354-360, Provo, UT: Association for Consumer Research, 1996.
- [41] N. E. Spears, J. C. Mowen, and G. Chakraborty, Symbolic role of animals in print advertising: Content analysis and conceptual

- development. *Journal of Business Research*, 37(2), p87-95, 1996. [https://doi.org/10.1016/0148-2963\(96\)00060-4](https://doi.org/10.1016/0148-2963(96)00060-4).
- [42] J. Solomon, and A. T. Gajilan, A Tale of a Tail. *Newsweek*, 11, p58-59, 1996.
- [43] G. Tom, R. Clark, L. Elmer, E. Grech, J. Masetti, and H. Sandhar, The use of created versus celebrity spokespersons in advertisements. *Journal of Consumer Marketing*, 9(4), p45-51, 1992. <https://doi.org/10.1108/07363769210037088>.
- [44] B. D. Till, Using celebrity endorsers effectively: Lessons from associative learning. *Journal of Product and Brand Management*, 7(5), p400-409, 1998. <https://doi.org/10.1108/10610429810237718>
- [45] C. Dowling, Intelligent agents: Some ethical issues and dilemmas. *2nd Australian Institute Conference on Computer Ethics*, Canberra, 1, p28-32, 2001.
- [46] R. S. Heiser, J. J. Sierra, and I. M. Torres, Creativity via cartoon spokespeople in print ads: capitalizing on the distinctiveness effect. *Journal of Advertising*, 37(4), p75-84, 2008. <https://doi.org/10.2753/JOA0091-3367370406>.
- [47] A. Takeuchi, and K. Nagao, Communicative facial displays as a new conversation modality. *Proceedings of the Conference on Human Factors in Computing Systems Amsterdam*, p187-193, 1993.
- [48] J. C. Lester, S. A. Converse, S. E. Kahler, S. T. Barlow, B. A. Stone, and R. S. Bhogal, The persona effect: Affective impact of animated pedagogical agents. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, p359-366, 1997. <https://doi.org/10.1145/258549.258797>.
- [49] H. M. McBreen, and M. A. Jack, Evaluating humanoid synthetic agents in e-retail applications. *IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans*, 31(5), p394-405, 2001. <https://doi.org/10.1109/3468.952714>.
- [50] H. Walker, L. Sproull, and R. Subramani, Using a human face in an interface. *Proceedings of Conference on Human Factors in Computing Systems*, p85-91, 1994. <https://doi.org/10.1145/191666.191708>.
- [51] S. J. Masterton, Computer support for learners using intelligent educational agents: the way forward. *Proceedings of ICCE' 98, the 6th International Conference on Computers in Education*, Beijing, China, October, 1998.
- [52] C. Bartneck, How convincing is Mr Data's smile? Affective expression of machines. *User Modeling and User-Adapted Interaction*, 11, p279-295, 2001. <https://doi.org/10.1023/A:1011811315582>.
- [53] C. Bartneck, Objects of attention, desire, and fulfilment: Interacting

- with an embodied emotional character. *Proceedings of the 2003 International Conference on Designing Pleasurable Products and Interfaces*, p55-60, 2003. <https://doi.org/10.1145/782896.782911>.
- [54] W. R. Lane, and J. T. Russell, *Advertising: A Framework*. Upper Saddle River, NJ: Prentice Hall, 2000.
- [55] M. R. Stafford, Tangibility in services advertising: An investigation of verbal versus visual cues. *Journal of Advertising*, 25(3), p13-28, 1996. <https://doi.org/10.1080/00913367.1996.10673504>.
- [56] V. Zeithaml, A. Parasuraman, and L. L. Berry, Communication and control processes in the delivery of service quality. *Journal of Marketing*, 52(2), 35-48, 1988. <https://doi.org/10.2307/1251263>.
- [57] T. Smits, and H. Vandebosch, Endorsing children's appetite for healthy foods: Celebrity versus non-celebrity spokes-characters. *Communications*, 37(4), p371-391, 2012. <https://doi.org/10.1515/commun-2012-0021>.
- [58] Grewal, J. Gotlieb, and H. Marmorstein, The moderating effects of message framing and source credibility on the price-perceived risk relationship. *Journal of Consumer Research*, 21(1), p145-153, 1994. <https://doi.org/10.1086/209388>.
- [59] R. R. Harmon, and K. A. Coney, The persuasive effects of source credibility in buy and lease situations. *Journal of Marketing Research*, 19(2), p255-260, 1982. <https://doi.org/10.2307/3151625>.
- [60] J. Cotte, R. A. Coulter, and M. Moore, Enhancing or disrupting guilt: The role of ad credibility and perceived manipulative intent. *Journal of Business Research*, 58(3), p361-368, 2005. [https://doi.org/10.1016/S0148-2963\(03\)00102-4](https://doi.org/10.1016/S0148-2963(03)00102-4).
- [61] T. H. Choo, Communicator credibility and communication discrepancy as determinants of opinion change. *Journal of Social Psychology*, 64(1), p65-76, 1964. <https://doi.org/10.1080/00224545.1964.9919544>.
- [62] B. Sternthal, R. Dholakia, and C. Leavitt, The persuasive effect of source credibility: Tests of cognitive response. *Journal of Consumer Research*, 4(4), p252-260, 1978. <http://dx.doi.org/10.1086/208704>.
- [63] Y. K. Choi, S. Yoon, and H. P. Lacey, Online game characters' influence on brand trust: Self-disclosure, group membership, and product type. *Journal of Business Research*, 66(8), p996-1003, 2013. <https://doi.org/10.1016/j.jbusres.2011.12.023>.
- [64] D. F. McAllister, R. D. Rodman, D. L. Bitzer, and A. S. Freeman, Speaker independence in automated lip-sync for audio-video communication. *Computer Networks and ISDN Systems*, 30(20-21), p1975-1980, 1998. [https://doi.org/10.1016/S0169-7552\(98\)00216-5](https://doi.org/10.1016/S0169-7552(98)00216-5).
- [65] K. Isbister, and C. Nass, Consistency of personality in interactive characters: Verbal cues, non-verbal cues, and user characteristics.

- International Journal of Human-Computer Studies*, 53(2), p251-267, 2000. <https://doi.org/10.1006/ijhc.2000.0368>.
- [66] A. Kolsaker, and C. Payne, Engendering trust in e-commerce: A study of gender-based concerns. *Marketing Intelligence and Planning*, 20(4), p206-214, 2002. <https://doi.org/10.1108/02634500210431595>.
- [67] B. C. Wang, and W. J. Yeh, Avatars with sex appeal as pedagogical agents: Attractiveness, trustworthiness, expertise, and gender differences. *Journal of Educational Computing Research*, 48(4), p403-429, 2013. <https://doi.org/10.2190/EC.48.4.a>.
- [68] S. Chaiken, Communicator physical attractiveness and persuasion. *Journal of Personality and Social Psychology*, 37(8), p1387-1397, 1979. <http://dx.doi.org/10.1037/0022-3514.37.8.1387>.
- [69] D. S. Berry, and L. Z. McArthur, Perceiving character in faces: The impact of age-related craniofacial changes on social perception. *Psychological Bulletin*, 100(1), p3-18, 1986. <http://dx.doi.org/10.1037/0033-2909.100.1.3>.
- [70] S. Brownlow, The Interactive effects of facial appearance and credibility information on attitude change. *Brandeis University, DAI-B 51(2)*, p1037-1256, 1990.
- [71] K. B. Sheehan, An investigation of gender difference in online privacy concerns and resultant behaviour. *Journal of Interactive Marketing*, 13(4), p159-173, 1999. [https://doi.org/10.1002/\(SICI\)1520-6653\(199923\)13:4<24::AID-DIR3>3.0.CO;2-O](https://doi.org/10.1002/(SICI)1520-6653(199923)13:4<24::AID-DIR3>3.0.CO;2-O).
- [72] J. Sengupta, and D. W. Dahl, Gender-related reactions to gratuitous sex appeals in advertising. *Journal of Consumer Psychology*, 18(1), p62-78, 2008. <https://doi.org/10.1016/j.jcps.2007.10.010>.
- [73] A. A. Raney, L. M. Arpan, K. Pashupati, and D. A. Brill, At the Movies, on the Web: An investigation of the effects of entertaining and interactive Web content on site and brand evaluations. *Journal of Interactive Marketing*, 17(4), p38-53, 2003. <https://doi.org/10.1002/dir.10064>.
- [74] K. W. Lin, and Y. J. Wang, The influence of animated spokes-characters on customer orientation. *International Journal of Organizational Innovation*, 4(4), p142-154, 2012.
- [75] D. S. Hayes, and D. W. Birnbaum, Preschoolers' retention of televised events: Is a picture worth a thousand words? *Developmental Psychology*, 16(5), p410-416, 1980. <http://dx.doi.org/10.1037/0012-1649.16.5.410>.
- [76] A. Huston-Stein, and J. C. Wright, Children and television: Effects of the medium, its content, and its form. *Journal of Research and Development in Education*, 13(1), p20-31, 1979.

- [77] J. C. Wright, and A. C. Huston, A matter of form: Potentials of television for young viewers. *American Psychologist*, 38(7), p835-843, 1983. <http://dx.doi.org/10.1037/0003-066X.38.7.835>.
- [78] P. Rakrachakarn, and G. P. Moschis, Are cartoon ads effective for adult consumers? *International Journal of Internet Marketing and Advertising*, 8(2), p125-142, 2013. <https://doi.org/10.1504/IJIMA.2013.058595>.
- [79] Wartella, and J. S. Ettema, A cognitive developmental study of children's attention to television commercials. *Communication Research*, 1(1), p69-88, 1974. <https://doi.org/10.1177/009365027400100104>.
- [80] J. H. Watt, and A. J. Welch, Effects of static and dynamic complexity on children's attention and recall of televised instruction. In J. Bryant and Anderson, D. R. (eds.), *Children's understanding of television: Research on attention and comprehension* (p69-102). New York: Academic Press, 1983.
- [81] A. J. Welch, and J. H. Watt, Visual complexity and young children's learning from television. *Human Communication Research*, 8(2), p133-145, 1982. <https://doi.org/10.1111/j.1468-2958.1982.tb00660.x>.
- [82] M. M. Alvarez, A. C. Huston, J. C. Wright, and D. D. Kerkman, Gender differences in visual attention to television form and content. *Journal of Applied Developmental Psychology*, 9(4), p459-475, 1988. [https://doi.org/10.1016/0193-3973\(88\)90012-3](https://doi.org/10.1016/0193-3973(88)90012-3).
- [83] A. C. Huston, J. C. Wright, E. Wartella, M. L. Rice, B. A. Watkins, T. Campbell, and R. Potts, Communicating more than content: Formal features of children's television programs. *Journal of Communication*, 31(3), p32-48, 1981. <https://doi.org/10.1111/j.1460-2466.1981.tb00426.x>.
- [84] E. Thorson, B. Reeves, and J. Schleuder, Message complexity and attention to television. *Communication Research*, 12(4), p427-454, 1985. <https://doi.org/10.1177/009365085012004001>.
- [85] J. Meyers-Levy, and B. Sternthal, Gender differences in the use of message cues and judgments. *Journal of Marketing Research*, 28(1), p84-96, 1991. <https://doi.org/10.2307/3172728>.
- [86] L. Mued, B. Lines, S. Furnell, and P. Reynolds, The effects of audio and video correlation and lip synchronization. *Campus-Wide Information Systems*, 20(4), p159-166, 2003. <https://doi.org/10.1108/10650740310491333>.
- [87] S. B. MacKenzie, and R. J. Lutz, An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of Marketing*, 53(2), p48-65, 1989. <https://doi.org/10.2307/1251413>.
- [88] P. J. McGoldrick, *Retail Marketing*. London :McGraw-Hill Europe,

2002.

- [89] R. Bagozzi, Y. Yi, and L. Phillips, Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), p421-458, 1991. <https://doi.org/10.2307/2393203>.
- [90] A. H. Segars, and V. Grover, Strategic information systems planning success: An investigation of the construct and its measurement. *MIS Quarterly*, 22, p139-163, 1998. <http://dx.doi.org/10.2307/249393>.
- [91] B. Atkin, and M. Block, Effectiveness of celebrity endorsers. *Journal of Advertising Research*, 23(1), p57-61, 1983.
- [92] M. A. Kamins, Celebrity and non-celebrity advertising in a two-sided context. *Journal of Advertising Research*, 29(3), p34-42, 1989.
- [93] C. Tripp, T. D. Jensen, and L. Carlson, The effects of multiple product endorsements by celebrities on consumers' attitudes and intentions. *Journal of Consumer Research*, 20(4), p535-547, 1994. <https://doi.org/10.1086/209368>.
- [94] R. P. Singh, and N. Banerjee, Exploring the influence of celebrity worship on brand attitude, advertisement attitude, and purchase intention. *Journal of Promotion Management*, 25(2), p225-251, 2019. <https://doi.org/10.1080/10496491.2018.1443311>.
- [95] B. Reeves, and C. Nass, *The Media Equation: How People Trust Computers, Television and New Media like Real People and Places*. Cambridge University Press, Cambridge, MA, 1996.