The Effect of Virtual Spokes-Character Type upon On-Line Advertisements

Abstract

Previous research rarely examines the difference about computer-generated imagery. To fill the research gap regarding spokes-characters, this study examines the rarely discussed influence of lip-synchronization in on-line advertisements. This study tests different types of virtual characters effects on advertisement effectiveness, including ad credibility, ad attitude, and ad attention. The main experiment includes eight conditions, in which each character has a different gender (male vs female), facial appearance (human-like vs cartoon-like characters), and lip-synchronization (adult vs child), presenting a hedonic animated on-line advertisement. Using analysis of variance (ANOVA), this study reveals that cartoon-like/female with child lip-synchronization presented in the on-line advertisements cause more positive advertisement effectiveness.

1. Introduction

Based on advanced computer technology and general Internet development, on-line advertising is playing an important role in promotional campaigns (Burns and Lutz, 2006). However, consumers may think that on-line advertisements without a traditional interface or familiar endorser are not sincere. Therefore, using an endorser to transmit messages may increase consumer confidence in on-line advertisements. Businesses are beginning to use virtual spokes-characters which are electronically-generated endorsers. Besides, virtual spokes-characters created by computer-generated graphics are not true people like movie stars or spokesmen (Garretson and Niedrich, 2004). These spokes-characters not only promote products and brands, but also reveal the importance of the Internet in modern life (Luo, McGoldrick, Beatty, and Keeling, 2006).

Callcott and Lee (1994) proposed that using animated characters as endorsers can be very attractive to audiences. In addition, using virtual spokes-characters to endorse products or brands can strengthen product accents and brand images. On the other hand, virtual spokes-characters seldom exhibit negative behavior or bring bad news. Therefore, more and more businesses have developed their own spokes-characters in recent years (Garretson and Niedrich, 2004). Actually, after the late 1800s, many nonhuman characters became successful, well-spoken endorsers. Well-known human-like spokes-characters include the Stila Girl, Uncle Ronald McDonald, and the colonel of Kentucky Fried Chicken. Popular cartoon-like spokes-characters include the Poppin' Fresh Pillsbury Doughboy and the Fujiya Cake Shop Peko, and the Minchelin Man. As company character identities (CCIs), these spokes-characters have established strong brand recognition and dovetailed brand concepts of community (Dotz, Morton, and Lund, 1996; Fournier, 1998; Thompson, 2002; Garretson and Niedrich, 2004).

Previous studies prove the relationship between spokes-characters and
consumer trust (Egger, 2000; Kim and Moon, 1998; Kolsaker and Payne, 2002; Roy, Dewit, and Aubert, 2001; Luo, McGoldrick, Beatty, and Keeling, 2006). The different facial appearances of spokes-characters also produce different consumer perceptions and different degrees of trust. On the Internet, human-like males and cartoon-like females bring more confidence to consumers than cartoon-like males and human-like females (Luo, McGoldrick, Beatty, and Keeling, 2006). However, spokes-characters with both voices and actions can make a deep impression on customers (Neeley and Schumann, 2004).

Many studies demonstrate that different spokes-character facial appearances produce different reactions in people (Luo, McGoldrick, Beatty, and Keeling, 2006). These studies indicate that the sight and sound of spokes-characters influence audience attention to advertising (Neeley and Schumann, 2004). Luo, McGoldrick, Beatty, and Keeling (2006) confirm that consumers consider human-like male and cartoon-like female characters to be more credible on the Internet, but they do not consider spokes-character lip-synchronization effects and the interaction of facial appearance, lip-synchronization, and gender of spokes-characters. However, few studies simultaneously discuss how spokes-character facial appearances and lip-synchronization influence advertising effectiveness. Advertisers frequently use spokes-characters as credible sources to affect consumer perceptions (Ronald, Barbara, and Stephen, 2000). Ad credibility and audience attention lead to more positive impressions (Yuhmiin and Esther, 2004). Petty and Cacioppo (1986) indicated that endorsers’ effects have traditionally been associated with attitude changes, and are also connected with attitude-toward-the-ad. The conclusions above indicate that a successful advertising spokes-character affects advertisement effectiveness in three ways, including attention, ad credibility, and ad attitude. Previous research on spokes-character advertising campaigns discusses the facial appearance and gender of characters (Luo, McGoldrick, Beatty, and Keeling, 2006) and confirm the significance of spokes-characters on the advertisement effectiveness. However, most literature on lip-synchronization simply discusses dubbed advertisements, which are suitable in English or the first language of bilingual international markets (Caruana and Monica, 2005). To fill up the research gap, this study verifies the relationship between different types of spokes-character facial appearance, lip-synchronization descriptions, and gender and advertisement effectiveness, including ad credibility, ad attitude, and attention.

In particular, this study has three objectives. First, this study examines how the facial appearance, lip-synchronization, and gender of spokes-characters affect consumer perceptions of on-line advertising. Second, this study verifies what kind of spokes-characters are the most adaptable to on-line advertising and produce best advertisement effectiveness. Third, this study designs an on-line advertisement simulation to experiment, and uses ANOVA to analyze the data. Hopefully, these results can help advertisers and company character identity (CCI) designers create suitable spokes-characters and contribute to relevant studies and future research.

2. Literature Review

2.1 Spokes-characters
Four familiar categories of endorsers are often used in advertising, including spokes-characters, celebrities, employees, and customers (Stafford, Stafford, and Day, 2002). According to the different types of product or brand demands, advertising content and profiles need adaptable co-ordination (Tripp, 1997; Stafford, Stafford, and Day, 2002). Hedonic advertisements with spokes-characters generate more alluring promotions and consumer involvement than utilitarian advertisements (Shavitt, 1992; Wakefield and Barnes, 1996). This finding implies that spokes-characters would be very special in hedonic advertising. The correlation between a spokes-character’s image and a hedonic atmosphere is very significant (Chandon, Wansink, and Laurent, 1999; Johar and Sirgy, 1991), which might influence advertisement effectiveness.

Marketers and advertisers have exploited spokes-characters in promotional campaigns and on product packages to encourage interests of audiences since the eighteen century (Callcott, 1993). Some exploratory research indicates that consumers adore, have confidence in, and even respect spokes-characters (Callcott and Phillips, 1996).

Spokes-characters are not originally created for animated movies, cartoon programs, or comic strips. Instead, they are born to promote products and brands. Although spokes-characters are not equal to human beings, they may produce the same, or even better advertisement effectiveness for marketers (Dotz, Morton, and Lund, 1996; Fournier, 1998; Thompson, 2002). Besides, consumers seem to assess these characters’ externals just as they are true people, and are accustomed to using their own knowledge on spokes-characters (Gilmore, 1919) and make their favorable impressions in artwork and animation. Not surprisingly, customers often regard spokes-characters as true people with souls (Stafford, Stafford, and Day, 2002).

Many spokes-characters studies confirm the prerogative of spokes-characters who promote products and play symbolic roles in brands (e.g., Callcott and Lee, 1994; Neeley et al., 2000; Phillips, 1996). Callcott and Lee (1994), Neeley et al. (2000), Spears, Möwen, and Chakraborty (1996) used the content analysis method to research spokes-character commercials and advertisements, indicating that (1) particular types of spokes-characters are usually featured with particular products, and (2) consumers appear to accept the spokes-characters with nostalgic qualities and relevancy to advertised products.

Recently, non-celebrity spokes-characters have appeared more frequently than celebrity characters. A probably cause for this trend is advanced technological animation. Uses for specific animated spokes-characters have been increasing (Solomon and Gajilan, 1996). Another reason might be that some advertisers prefer to design their own spokes-characters to create popularity and exclusivity effects, along with subsequent brand equity (Callcott and Lee, 1994).

Animated characters are increasing in the advertisements of national brands. Several modern advertisements appear to use spokes-characters as a charming alternative to celebrity endorsements. Besides, a benefit of using spokes-characters or animated characters to endorse brands is not necessary to deal with their off-stage behavior (Till, 1998; Tom et al., 1992).
2.2 Human-like vs. cartoon-like characters

Research indicates that the information format of communications between computers and humans affects human attitudes and responses toward on-line advertising (Dowling, 2001). Spokes-character facial appearances might have a vital effect on credibility and consumer acceptance (Dowling, 2001), which probably further influences their purchase intentions.

Research indicates that users prefer to connect with advertisements which have facial appearances rather than non-facial appearances while operating with a computer interface (Takeuchi and Nagao, 1993). Other researchers, including Koda (1996), Lester et al. (1997), McBreen and Jack (2001), and Walker et al. (1994) state that on-screen characters with a strong visual presence and facial appearance can better involve and motivate consumers watching on-line advertisements.

Consumers may be more patient with the limitations of characters and have lower expectations of them if they observe advertisements made "only" by computer programs (Dowling, 2001). Using more characters is therefore a good way to decrease consumer expectations of the conversational abilities of spokes-characters (Dowling, 2001). Masterton (1998) argued that consumers are more likely to accept advertisements with a degree of anthropomorphism than full personification. This is because consumers might lower their expectations for cartoon-like characters’ communication abilities due to current technical limitations (Bartneck, 2001; 2003). Thus, cartoon-like spokes-characters might be more suitable to an on-line interface than absolutely human-like spokes-characters (McBreen and Jack, 2001).

2.3 On-line advertising

One of the major challenges in advertising is to afford tangible and differentiating elements to electronic marketing (Lane and Russell, 2000). Advertisers often use various strategies to achieve tangibility, including (1) visualization of qualities or consumer's benefits; (2) relevance to an additional product, person, affair, place, or object; (3) physical performance of the service; (4) documentation such as facts or actually explaining service characteristics (Lane and Russell, 2000). The attention-getting function of spokes-characters is one way to strengthen tangibility (Stafford, 1996; Zeithaml, Parasuraman, and Berry, 1988) and provide a point of differentiation.

Using the right spokes-characters to promote products or brand images is particularly challenging because the spokes-character might become a suitable representation of the advertisements in the short of defining visual cues. An effective advertising campaign depends on the right spokes-characters to deliver a convincing message through adaptable media. Creating the right spokes-characters is a complex process based on the need to increase advertising effectiveness such as credibility, attention, and attitude toward advertisement, as well as adapting spokes-characters characteristics to products and brand images (Stafford, Stafford, and Day, 2002).

Three dimensions can be used to measure advertisement effectiveness: ad credibility, ad attitude, and attention, which may exhibit complementary coexistence. The objectives of this study are to examine different facial appearances and
lip-synchronization effects on these three dimensions of advertisement effectiveness, and also to analyze their interdependencies.

2.4 Ad credibility

Many variables affect consumer trust toward advertisement spokes-characters. Research shows that character nostalgia and expertise probably influence consumer trust in spokes-characters (Callcott and Phillips, 1996; Neeley and Schumann, 2004)

Spokes-characters often bring advantages to a brand, especially when introducing new brands or original products (Grewal, Gotlieb, and Marmorstein, 1994). Spokes-characters also help during brand switching, conforming to consumer expectations (Harmon and Coney, 1982). In addition, spokes-characters can produce significant brand and advertisement recall. Generally, highly credible sources created by spokes-characters are persuasive in general communications terms (Choo, 1964). Several studies indicate that highly credible spokes-characters are more popular in unfavorably disposed audiences because they are very persuasive. However, they should be employed for favorably inclined audiences as well (Harmon and Coney, 1982; Sternthal, Dholakia, and Leavitt, 1978). If spokes-characters can deliver the right message in appropriate ways, they increase audience reception of the advertisement.

Research on the facial appearance of spokes-characters demonstrates a clear connection between physical design factors and elicited emotions. Character credibility can be successfully developed and established in the first customer-character interaction. Therefore, a customer’s first impressions of a spokes-character may strongly affect their credibility, and the graphic elements of a spokes-character’s facial appearance are most likely to convey credibility in on-line applications (Luo, McGoldrick, Beatty, and Keeling, 2006). Hence, this study offers the following hypothesis:

\( H1a: \text{The facial appearance of spokes-characters influences on-line ad credibility.} \)

Many character lip-synchronization applications may be operated in Internet activities, video communications, and virtual reality. Some of them include accurate face illustrations of intelligent talking agents, interactive gaming, automatic film dubbing hearing decreased, and compression of facial images for video communication (McAllister, Rodman, Bitzer, and Freeman, 1998). Moreover, a major emphasis of the internet is credibility. Only when on-line activities are credible can they amplify the effect of advertisements.

Lip-synchronization is still regarded as a vital feature of spokes-characters, and it is especially important to reliable voice credibility in internet advertising. Hence, this study offers the following hypothesis:

\( H1b: \text{The lip-synchronization of spokes-characters influences on-line ad credibility.} \)

Kolsaker and Payne (2002) suggested that both men and women appear to take equal notice of security issues in the general environment; however, male and female consumers on a website prefer different spokes-character genders (Luo, McGoldrick,
Beatty, and Keeling, 2006). Isbister and Nass (2000) suggested that people prefer that spokes-character personalities be like their own. Sheehan (1999) confirmed that women focus on higher security than men while browsing online. Women are more likely to consider credibility, security, and confidentiality as important elements in building a good online relationship. Hence, this study offers the following hypothesis:

**H1c:** The gender of spokes-characters influences on-line ad credibility.

### 2.5 Ad attitudes

Research confirming that physical facial appearance characters influence customer attitudes shows that attractive communicators are generally much more adept at persuading consumers. However, Berry and McArthur (1986) indicated that facial babyishness is an element which has a strong influence on consumer impressions. However, mature-faced communicators are more persuasive than baby-faced communicators when expertise is in doubt (Sheila, 1990). Therefore, ad attitudes might be influenced by the physical characteristics of characters including facial appearance, for both human-like and cartoon-like characters. Hence, this study offers the following hypothesis:

**H2a:** The facial appearance of spokes-characters influences on-line ad attitudes.

Customers usually have a more positive attitude toward audiovisual advertisements than video-only advertisements (Raney, Arpan, Pashupati and Brill, 2003). Particular accents in lip-synchronization may drive consumers to different perceptions (McAllister, Rodman, Bitzer, and Freeman, 1998). For example, some consumers may consider an adult-voice to be a little featureless, but they would still be persuaded. Therefore, each lip-synchronization including child-voice and adult-voice would display their quality, and result in diverse ad attitude. Hence, this study offers the following hypothesis:

**H2b:** The lip-synchronization of spokes-characters influences on-line ad attitudes.

Males and females appear to exhibit different on-line ad attitudes and behavior (Sheehan, 1999). Based on the theory of attraction between heterosexuals, men usually prefer to connect with female characters and have a positive ad attitude to them. On the other hand, women tend to respond to male characters. Thus, character designers must consider what kind of message a male character and female character could deliver to male and female customers. Hence, this study offers the following hypothesis:

**H2c:** The gender of spokes-characters influences on-line ad attitudes.

### 2.6 Ad attention

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 credibility. Audience attention may be related to consumer impressions about the character's appearance; moreover, different levels of attention might result
in different opinions of spokes-characters. Using spokes-characters can impress audiences and make them pay attention, especially in hedonic advertisement (Callcott and Lee, 1994).

Some communication research about children and television suggests that an audiovisual format may achieve a particular outcome. Because of the interaction between visual and verbal display, different animation characteristics such as visual actions and sound effects can consistently increase the attention of preschool-aged children (Alwitt et al., 1980; Fowles, 1976; Hayes and Birnbaum, 1980; Huston-Stein and Wright, 1979; Wright and Huston, 1983).

However, spokes-characters and animated advertisements attract adults as well as children (Garretson and Niedrich, 2004). Moreover, the facial appearances of spokes-characters (e.g., human-like and cartoon-like) may generate varying degrees of attention. Generally, cartoon-like spokes-characters attract more attention because they are not ordinary human beings. Hence, this study offers the following hypothesis:

**H3a: The facial appearance of spokes-characters influences on-line ad attention.**

Researchers have indicated that the attention-attracting ability of audiovisual information is affected by message stimulus complexity (Wartella and Ettema, 1974; Watt and Welch, 1983; Welch and Watt, 1982). Visual complexity is typically ascribed to great numbers of objects or movements in the visual scan (Alvarez et al., 1988; Huston et al., 1981; Watt and Welch, 1983; Welch and Watt, 1982). Auditory complexity is traditionally defined as many changes in different sounds heard through the aural channel (Thorson, Reeves, and Schleuder, 1985; Watt and Welch, 1983). When advertisers engage in commercials, they often operate colorful, action-oriented animated spokes-characters and accompany them with fancy voices and sound effects (Neeley and Schumann, 2004).

Lip-synchronization is a vital issue in multimedia applications, and involves the synchronization of movements of a spokes-character’s lips and spoken voice. Previous results suggest that the relationship between aural and visual media exits strong interaction (Mued, Lines, Furnell, Reynolds, 2003). Both a child-voice tied in with a adult-like face and an adult-voice tied in with a cartoon-like face are obviously contrasting combinations that might generate attention. Hence, this study offers the following hypothesis:

**H3b: The lip-synchronization of spokes-characters influences on-line ad attention.**

The difference of spokes-character gender is presumably more obvious when message cues are more attention-getting (Meyers-Levy and Sternthal, 1991). Marketers find the gender of the spokes-character very interesting for several reasons. Some research shows that gender segmentation may be helpful even when males and females exists analogous interest and knowledge in a message of advertisements. Based on differences in consumer gender, spokes-characters types experience varying levels of attention. Therefore, when advertisers design spokes-characters, their gender should be considered seriously. Hence, this study offers the following hypothesis:

**H3c: The gender of spokes-characters influences on-line ad attention.**
3 Method

3.1 The conceptual framework of the study

This study focuses on three dimensions that might influence users' ad credibility, ad attitudes, and attention to spokes-character advertisements.

(1) Spokes-character’s facial appearance (human-like or cartoon-like)

(2) Spokes-character’s gender (male or female)

(3) Spokes-character’s lip-synchronization (adult voice or child voice)

These three spokes-character dimensions make it possible to generate eight conditions: 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) characters.

Figure 1 demonstrates that the three dimensions of spokes-characters, including facial appearance, lip-synchronization, and gender, might influence advertisement effectiveness.

![Figure 1 Conceptual Model](image)

3.2 Pretest

This study executes virtual spokes-characters design, the advertising scenario writing, questionnaire design, pretest and reliability and validity test. Based on facial appearances and gender factors, the experiment in this study involves four types of spokes-characters. To select the most adaptable characters for this experiment, a pretest is necessary.

To help ensure a fair and comparable test, the similarities of the character styles must be measured at the character design stage. However, care was taken to certify that consumers received equal amounts of information about all characters.
Additionally, differences between the characters must be considered in the design stage to provide a range for selection.

The pretest included a questionnaire with four types. Each type includes 4 characters, so a total 16 characters were designed in Adobe Photoshop 7.0. Figure 2 presents the 16 characters which were used to collect data about the degree of fit between respondents’ perceptions for each spokes-character and an advertisement scenario.

![Figure 2 16 Spokes-characters](image)

3.3 Selection of spokes-characters and lip-synchronization

To ensure that the virtual spokes-characters traits agree with respondents’ cognitions, participants were asked to choose the most appropriate character for the advertisement script. Respondents selected one character from each category. These four characters represented each type of spokes-characters investigated in this study, and were tested in the next stage of experiment. Figure 3 shows the four characters selected.

![Figure 3 Four Spokes-characters selected from the pretest](image)

A total of 50 unmarried 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 sixteen. They represented each type of spokes-character in this study. The four spokes-characters’ images are displayed in Figure 3.
To make lip-synchronization suit each spokes-character and the advertisement scenario, the study solicits several voice actors for optimum lip-synchronization via an internet community named "TWvoice" which aggregates many lip-syncing fans or experts. After that, they dubbed each spokes-character into adult or child voice. Each spokes-character with diverse facial appearance, gender, and lip-synchronization integrated into eight advertisements tested in the next stage of experiment.

3.4 Research design and procedure

Eight advertisements are designed for producing animation, dubing in background music, lip-synchronization, and questionnaire survey.

The principal research technique in this study is the quantitative method. To produce a realistic experiment, eight advertisements with identical arguments but different spokes-characters were created to examine the on-line advertisement effectiveness of spokes-characters. The advertisement content was fabricated by a simulated journey agency named “Happiness travel.” The advertisement scenario describes a journey promotion for someone encountering their lover. The advertisement advocates that people can meet their Mr. Right or Miss Right by taking a journey. The advertisement uses a 2D animation designed in Sony Vegas 5.0 and Adobe Photoshop to convey the above mentioned scenario.

The test advertisement was inserted in a Vlog, which is a video blog that usually displays supporting text, images, and additional metadata (Wikipedia, 2007). Eight advertisements were shown in the Vlog, "I’m tv". At first, each respondent was asked to connect to the website and watch the advertisements in the Vlog. Respondents then completed the on-line questionnaire about advertisement effectiveness. Moreover, because the experiment subject is on-line advertisement, suitable respondents were all internet users. Respondents included college students, young employees, and unmarried people who would be attracted more easily by the argument about finding one’s true love than children and older people.

3.5 Measures

For consistency, all responses were measured using a Likert-type scale, with 1 ="strongly disagree," 4 = "neutral," and 7 = "strongly agree." The questionnaire included four parts. The first part contained measurements of ad credibility; the second part measured ad attitude, and the third part measured ad attention in two ways. The final part gathered respondents’ descriptive data (including age, gender, network experience, and the amount of time they spend on the internet every week).

Credibility is the expectation of a target object, and was measured by convincing perception, belief, and bias (MacKenzie and Lutz, 1989). Some research considers ad credibility as the perception of ad trustworthiness. This study also uses MacKenzie and Lutz’s (1989) measurement with a three-item scale: convincing, believable, and unbiased.

Regarding ad attitude, this study adapts three-item measurements developed by MacKenzie and Lutz (1989), including good, pleasant, and favorable.
To measure ad attention, this study uses Chang and Thorson’s (2004) measurements, including “the advertisement caught my interest” and “I paid close attention to the advertisement” to measure participant attention to the advertisements.

3.6 Data collection

The respondents were sampled from a population of volunteer internet users and main subjects were drawn by purposive sampling method. Because our advertisement scenario was designed to encourage people chase their true love by the promotion journey, unmarried college students and young employees constituted our major respondents.

The respondents were asked to visit a site of Vlog, called "I’ mtv", and watched one of the eight advertisements randomly at first, and then filled out the questionnaire with demographics. 700 questionnaires were received totally. Deducting 36 invalid samples, the left 664 (94.9 percent) questionnaires were available for analysis. Of the 664 respondents, 337 were male (50.8 percent) and 327 were female (49.2 percent). The age range was skewed towards the younger groups, which is extensively reflective of internet usage (Luo, McGoldrick, Beatty, and Keeling, 2006): 18-24 (n=386; 58.1 percent); 25-34 (n=226; 34.0 percent); 35-44 (n=29; 4.4 percent); 45 plus (n=23; 3.5 percent). The vast majority of participants (92.1 percent) were aged below 35.

4 Main Results and Analysis

The sample size for HFA, HFC, HMA, HMC, CFA, CFC, CMA, and CMC consisted of 83, 78, 82, 81, 90, 75, 92, and 83 respondents, individually. Data were analyzed by SPSS 10.0 for Windows to examine the reliability of the scale items and test the hypotheses. The reliability scores (Cronbach’s alpha) for the measures are all above 0.8. (see Table 1).

<table>
<thead>
<tr>
<th>Scales</th>
<th>Credibility</th>
<th>Attitude</th>
<th>Attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale items*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convincing</td>
<td>Good</td>
<td>The advertisement caught my interest</td>
<td></td>
</tr>
<tr>
<td>Believable</td>
<td>Pleasant</td>
<td>I paid close attention to the advertisement</td>
<td></td>
</tr>
<tr>
<td>Unbiased</td>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's α

<table>
<thead>
<tr>
<th>Scales</th>
<th>HFA</th>
<th>HFC</th>
<th>HMA</th>
<th>HMC</th>
<th>CFA</th>
<th>CFC</th>
<th>CMA</th>
<th>CMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cr</td>
<td>0.86</td>
<td>0.84</td>
<td>0.93</td>
<td>0.87</td>
<td>0.91</td>
<td>0.89</td>
<td>0.88</td>
<td>0.86</td>
</tr>
<tr>
<td>Att</td>
<td>0.88</td>
<td>0.94</td>
<td>0.89</td>
<td>0.87</td>
<td>0.90</td>
<td>0.94</td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td>Att</td>
<td>0.84</td>
<td>0.81</td>
<td>0.89</td>
<td>0.85</td>
<td>0.89</td>
<td>0.91</td>
<td>0.89</td>
<td>0.84</td>
</tr>
</tbody>
</table>

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

Respondents of the study include 339 males (51 percent) and 325 (49 percent) females. Their average internet experience is 4.8 years, and average using internet time is 5.4 hours per day. Descriptive statistics for eight spokes-characters are
provided in Table 2.

Table 2 Descriptive statistics on eight spokes-characters by group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
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</thead>
<tbody>
<tr>
<td>HFA</td>
<td>83</td>
<td>3.932</td>
<td>1.236</td>
<td>4.150</td>
<td>1.395</td>
<td>4.139</td>
<td>1.331</td>
</tr>
<tr>
<td>HFC</td>
<td>75</td>
<td>3.949</td>
<td>1.067</td>
<td>4.058</td>
<td>1.387</td>
<td>3.987</td>
<td>1.436</td>
</tr>
<tr>
<td>HMA</td>
<td>82</td>
<td>3.845</td>
<td>1.298</td>
<td>4.512</td>
<td>1.413</td>
<td>3.860</td>
<td>1.512</td>
</tr>
<tr>
<td>HMC</td>
<td>81</td>
<td>4.070</td>
<td>1.172</td>
<td>4.720</td>
<td>1.317</td>
<td>4.080</td>
<td>1.472</td>
</tr>
<tr>
<td>CFA</td>
<td>90</td>
<td>4.115</td>
<td>1.332</td>
<td>4.615</td>
<td>1.333</td>
<td>4.150</td>
<td>1.557</td>
</tr>
<tr>
<td>CFC</td>
<td>75</td>
<td>4.547</td>
<td>1.196</td>
<td>4.983</td>
<td>1.479</td>
<td>4.527</td>
<td>1.611</td>
</tr>
<tr>
<td>CMA</td>
<td>92</td>
<td>4.170</td>
<td>1.171</td>
<td>4.696</td>
<td>1.264</td>
<td>4.190</td>
<td>1.513</td>
</tr>
<tr>
<td>CMC</td>
<td>83</td>
<td>4.161</td>
<td>1.290</td>
<td>4.667</td>
<td>1.327</td>
<td>4.000</td>
<td>1.610</td>
</tr>
</tbody>
</table>

4.1 Hypotheses testing

Using multivariate statistical analysis and there formed of ANOVA to explore differences in the ad credibility, ad attitude, and ad attention of the eight spokes-characters. A there-way (2×2×2) repeat-measure ANOVA was run to analyze the effects of spokes-characters’ facial appearance, gender, and lip-synchronization on each dependent variable. The complete results show in Table 3.

Table 3 ANOVA results

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Sources of variation</th>
<th>DS</th>
<th>MS</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD Credibility</td>
<td>Facial appearance</td>
<td>1</td>
<td>14.60</td>
<td>9.62 **</td>
</tr>
<tr>
<td></td>
<td>Lip-synchronization</td>
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<td>3.02 *</td>
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<td>4.35</td>
<td>2.89 *</td>
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<td>2.63 *</td>
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<tr>
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<td>FA’LS*Gen</td>
<td>1</td>
<td>9.11</td>
<td>3.89 **</td>
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Note: *P<0.1; **P<0.05; ***P<0.01; FA=Facial appearance LS=Lip-synchronization

The first hypothesis includes H1a, H1b, and H1c. The ANOVA test shows that the facial appearance (F=9.817, p<0.01) and lip-synchronization (F=3.020, p<0.1) os spokes-characters are significantly positively influence ad credibility. H1a and H1b are supported. The test shows also that the gender of spokes-characters didn’t significantly influence on-line ad credibility (F=0.602, p=0.438), H1c is not supported.

The second hypothesis includes H2a, H2b, and H2c. The test shows that the facial appearance (F=1.737, p=0.188), lip-synchronization (F=1.832, p=0.176), and gender (F=0.164, p=0.686) of spokes-characters didn’t significantly influence on-line
ad attitudes. H2a, H2b, and H2c are not supported. However, each group’s mean of ad attitude is above 4.5, which is higher than ad credibility and ad attention (see Table 4). This result represents that audiences still have positive attitudes toward these advertisements, which is identical to prior study (e.g., Stafford, Stafford, and Day, 2002).

The third hypothesis includes H3a, H3b, and H3c. The test shows that the facial appearance of spokes-characters did positively influence on-line ad attention, (F=2.830, p<0.1). H3a is supported. The test shows that the lip-synchronization (F=0.288, p=0.592) and gender (F=1.992, p=0.159) of spokes-characters didn’t significantly influence on-line ad attention. H3b and H3c are not supported.

A least significant difference (LSD) post hoc analysis determined mean differences of ad credibility occurred between CFC character and all other characters. The mean differences of ad attitude occurred among CFC, HFA, and HMA characters. ad attention occurred among CFC, HFC, HMA, and CMC characters. The above-mentioned findings and no mean differences between spokes-characters are summarized in Table 4.

Table 4 Results of the LSD post hoc analysis on spokes-characters

<table>
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<tr>
<th></th>
<th>HFA M=3.93</th>
<th>HFC M=3.95</th>
<th>HMA M=3.85</th>
<th>CFC M=4.55</th>
<th>CMA M=4.17</th>
<th>CMC M=4.16</th>
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<tr>
<td>HMA</td>
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<td>0.30**</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CFC</td>
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<td>0.30**</td>
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<td>CMA</td>
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<td>0.30**</td>
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<td><strong>AD Attitude</strong></td>
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<td>0.47**</td>
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Note: "Statistically significant (P<0.1). "*P<0.05. "**P<0.01 means differences between spokes-characters.

5 General Discussion

This study yields insight into the factors accounting for the positive impact of spokes-characters on advertisement effectiveness. In sum, H1 and H3 were partially supported, but H2 was not supported. The findings complement prior research illustrating the effect of spokes-characters types on advertisements. The study certifies that facial appearance and lip-synchronization positively influence ad credibility and
ad attention, and the interaction (facial appearance × lip-synchronization × gender) also positively influence ad credibility and ad attention. Making audiences believe the content of advertisement is undoubtedly a critical point of increasing promotion effectiveness. However, an effective advertisement must attract audiences’ attention first, and then it probably proceeds to getting customer credibility. Although spokes-characters’ facial appearance, lip-synchronization, and gender do not influence ad attitude, audiences generally have positive attitudes toward the advertisements.

This study suggests that facial appearance of spokes-characters indeed influence ad credibility and ad attention; lip-synchronization affects ad attention. Besides, the results of the least significant difference post hoc test reveal that cartoon-like spokes-characters make audiences more ad credibility and ad attention than human-like ones. Child-voice spokes-characters make audiences more ad attention than adult-voice ones.

Furthermore, this study demonstrates that the interaction which consists of spokes-characters’ lip-synchronization, facial appearance, and gender significantly positively influences ad credibility and ad attention.

5.1 Contributions and implications

This research offers three distinct contributions. First, this study examines the facial appearance, lip-synchronization, and gender of spokes-characters affect consumer perceptions of on-line advertising containing ad credibility and ad attention. Although AD attitude is not affected by facial appearance, lip-synchronization, and gender of spokes-characters, audience still have positive ad attitude toward each spokes-character advertisement. Much prior research has been confirmed that celebrities and spokespersons can bring well ad attitude (Atkin and Block, 1983; Friedman and Friedman, 1979; Kamins, 1989; Stafford, Stafford, and Day, 2002; Tripp, Jensen, and Carlson, 1994), but less directly proved that spokes-characters also create satisfied ad attitude.

Second, this study reveals that spokes-characters with cartoon-like facial appearance and child-voice lip-synchronization create more ad credibility and ad attention. Besides, female spokes-characters make audiences take positive attitude toward these advertisements. Because credibility, attitude, and attention are the important elements of advertisement effectiveness, above results implies that to make audiences have much positive advertisements effectiveness including ad credibility, ad attitude, and ad attention, using the kind of female cartoon-like facial/child-voice spokes-characters (CFC) may be the best choice while design on-line hedonic advertisements.

Third, this study designs an on-line advertisement simulation to experiment. Several studies (e.g., Reeves and Nass, 1996; McBreen and Jack, 2001) discovered people have a preference to interact with on-screen characters that exhibit human-like facial appearance. Luo, McGoldrick, Beatty, and Keeling (2006) confirmed that not only on-screen characters’ facial appearance but also gender would affect customer trustworthy. However, transmitting messages by voice is important to create successfully virtual spokes-characters in advertisements, but lip-synchronization was
little explored in period research. In view of the lack of related studies, lip-synchronization is integrated into this work which suggests that the interaction effect of spokes-characters’ lip-synchronization combining facial appearance and gender simultaneously has impacts on the advertisement effectiveness on the internet.

5.2 Conclusions

In sum, this study represents the first purpose to examine the effect of virtual spokes-characters’ lip-synchronization integrated with facial appearance and gender on customers’ perceptions toward on-line advertisement effectiveness. Experiment design was used to examine the eight spokes-characters of multiple factors in customers’ reaction. This study considers simultaneously the overall effect which integrates three constructs, including lip-synchronization, facial appearance, and gender, which suggests that the interaction effect of spokes-characters’ lip-synchronization combining facial appearance and gender has impacts on the ad credibility and ad attention. Moreover, a female spokes-character with cartoon-like and child voice (CFC) is suggested the best adaptable type to perform in the on-line advertisements. Although more research is needed to better understand the effects of virtual spokes-characters, our concepts presented may be helpful to support advertisers and company character identity (CCI) designers create virtual spokes-characters and contribute to relevant studies and future research.

5.3 Limitations and suggestions for future research

The results of this study have some limitations, and some points need future research. First, much research suggested that spokes-characters are more useful for hedonic advertisements which are used in this study than utilitarian ones (Stafford, Stafford, and Day, 2002), future studies might try to compare the advertisement effectiveness of spokes-character types in hedonic advertisements with utilitarian ones. Second, this study uses single ad which is fixed scenario and messages, designed to a simulated travel agency, which might induce audiences’ individual prejudiced view; the exposure to other advertising contents, topics, or scenario, also worth examining for future researches. Third, in spite of respondents are considered acceptable for this type of experimental research, perspective study should attempt to draw a national and cross-sectional sample. Forth, the study broadcasts advertisements on the internet (I’mtv), which is an matched media for virtual spokes-characters cause Internet is just alike virtual reality (Luo, McGoldrick, Beatty, and Keeling, 2006). However, each endorser (e.g., celebrities, spokesperson, or mascot) may suit diverse media to display diverse advertisements. Future research may consist of a test of various spokes-characters types across different media. Finally, this study expresses the voice discrimination of spokes-characters by an adult-child type, and other types such as emotion or tone of a voice actor and background music probably influence the audience perceptions.

6 Reference


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