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An Emoji Is Worth a Thousand Words:
The Influence of Face Emojis on Consumer Perceptions of User-Generated Reviews

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ABSTRACT

Face emojis are regularly used in reviews on online shopping sites to add richness and/or levity to the text. However, few researchers have investigated the use of face emojis in consumer reviews. This paper examined the effects of the number of face emojis (none, one, and three) in user-generated reviews (UGRs) on trustworthiness and purchase intention. They found that the number of face emojis in UGRs has a profound impact on consumers. A greater number of face emojis correlates with a greater degree of review trustworthiness. However, the effect of emojis on purchase intention changes depending on the situation. Additionally, when there is a profile picture, consumers pay more attention to it, and the positive effect due to face emojis disappears. Moreover, the gift giver-recipient relationship moderates the effect of face emojis on user decisions. The findings of our work have theoretical and managerial implications with respect to providing a new means of understanding consumer perceptions of products, from which business can benefit by improving sales and policies.

KEYWORDS

Consumer Perceptions, E-Commerce, Face Emojis, User-Generated Reviews

1. INTRODUCTION

Face emojis allow people who do not find it easy to express themselves through verbal cues (e.g., text) to convey their emotions through these nonverbal cues. Nonverbal cues are key indicators of the feelings and intention of communicators, especially when other people are unable to see them as they communicate (Hogenboom et al., 2013). Using face emojis creates the sense of a face-to-face conversation, eliminating the likelihood of misunderstanding and confusion (Harris & Paradice, 2007; Riordan & Kreuz, 2010; Hill, 2016). In user-generated reviews (UGRs), many people use face emojis to increase the impact of their message, such as by adding two smiley faces to show their

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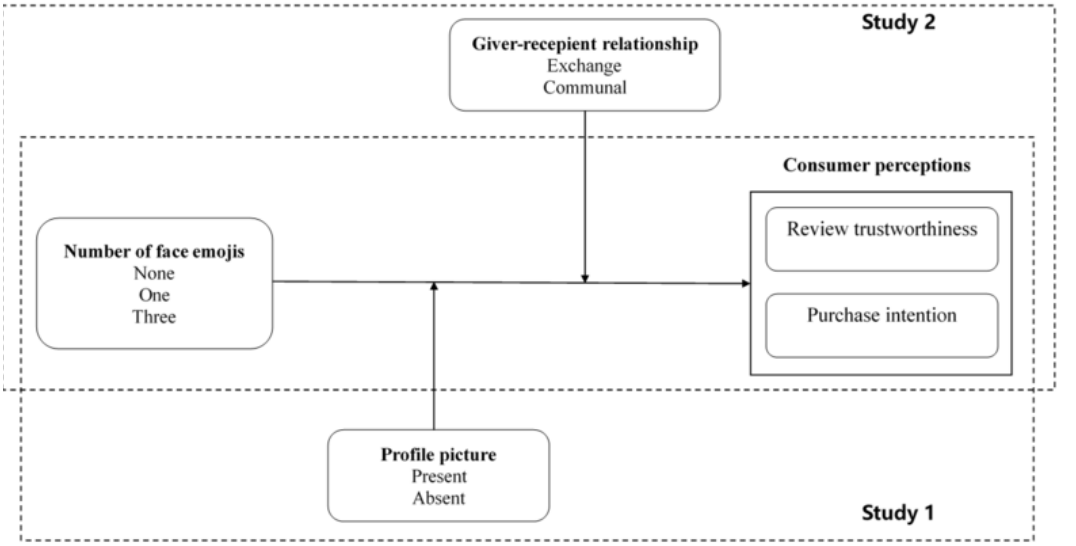
delight with a purchase or an angry face to show negativity when writing comments about a product. The social information processing (SIP) model (Walther, 2008) posits that users who are unfamiliar with each other form opinions based on textual interactions. Users require a sufficient amount of message exchange to achieve "normal" relationships online. The review area on e-commerce websites allows consumers to exchange information, which helps them better achieve a "normal" relationship. A key aspect of the SIP model is that different people may view and evaluate the same information in very different ways because people do not objectively evaluate the information itself but evaluate it through their subjective cognition. This evaluation is influenced by the other information that appears simultaneously and the context (Crick & Dodge, 1994). People may understand and evaluate information through face emojis, which are nonverbal cues, in UGRs. However, how consumers react to face emojis in UGRs? Several studies have examined the use of face emojis in email, in instant messaging and on social media platforms such as Twitter and Facebook (Lo, 2008; Luor et al., 2010). The proliferation of emojis in marketing communications such as advertisements has also been explored (Das et al., 2019; Luangrath et al., 2017). However, research on how consumers react to face emojis in UGRs is still sparse. To fill this gap, this research examines how face emojis in UGRs influence consumer perceptions.

Das et al. (2019) documented that the use of emojis in advertisements influences purchase intention. Advertising and review presentation are both important elements of marketing communication; therefore, this work first examines the influence of emojis on purchase intention. Furthermore, in a face-to-face conversational context, facial expression is often viewed as an important means of judging whether the person to whom one is talking can be trusted (Boone & Buck, 2003). The trustworthiness of the source of a review is also a vital aspect that affects consumer behavior (Lee & Youn, 2009; Lee et al., 2011). The authors also examine the trustworthiness of reviews to explore the influence of face emojis in UGRs.

Carey (1980) found that the more nonverbal cues there are in a message, the stronger the effect on the reader. Consumers can convey an intense positive regard for a product through the use of multiple emoticons in UGRs. For example, in "The cake is so tasty!", the number of emoticons allows consumers to "feel" this sentiment far more than they would if there were only one emoticon. Face emojis in UGRs can be used to influence consumer perceptions, and the number of emoticons is one of the important factors in the presentation effect of reviews. This study further explores how the number of face emojis used in UGRs influences consumers.

In most review areas on e-commerce websites, not only are consumers allowed to see nonverbal cues, such as face emojis, but they can also see users' profile pictures as well. Previous studies have found that participants exhibit greater emotional trust in reviewers who include profile pictures, which in some cases are associated with a higher level of review trustworthiness. Additionally, Facebook users may pay more attention to profile pictures when they appear with other information (Xu, 2014; Vilnai-Yavetz & Tifferet, 2015; Ivcevic & Ambady, 2012). In this study, the authors further explore the effect of face emojis and other nonverbal cues, such as profile pictures, on consumer perceptions when they coexist in the UGR display area. Additionally, the context in which information is presented influences the information cognition of viewers (Crick & Dodge, 1994). The above reasoning applies to situations where goods are purchased for self-use. However, situations in which people buy gifts to give to relatives or social contacts are also very common. The proportion of e-commerce in the gift industry is rising rapidly and becoming one of the greatest contributors to e-commerce growth. In 2018, e-commerce transactions in China's gift industry reached nearly 200 billion yuan (China Industrial Information Network editors, 2020). The difference in the relationship between gift givers and recipients has been shown to be an important factor in the decision-making process of gift purchases (Sherry, 1983; Chien-Huang & Yidan, 2018; Ward & Broniarczyk, 2011). This difference may also affect the focus of viewers as they read UGRs. Thus, the authors take the lead in introducing "relational norms" into research on face emoji saliency.

Figure 1. Conceptual overview and layout of the studies



Building on the above argument, the authors seek to demonstrate that face emojis play a key role in UGRs and affect consumer perceptions (review trustworthiness and purchase intention). This research has two goals: (1) to investigate the influence of the number (none, one, three) of face emojis on the effects of UGRs and (2) to test boundary conditions for the effectiveness of the number of face emojis in UGRs, including the presentation of a profile picture and gift giver–recipient relational norms. To explore the above issues, the authors set up two experiments in which user evaluations of a certain commodity are shown the subjects to explore the outcome of the manipulation of the experimental variables. Experiment 1 explored the relationship among the number of face emojis, consumer perceptions and the presence of a profile picture; Experiment 2 explored the relationship among the number of face emojis, consumer perceptions and the giver-recipient relationship. Figure 1 illustrates the conceptual model guiding this research process.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 The Marketing Communication Role of Face Emojis

In a face-to-face context, facial expressions have been shown to provide behavioral and situational information in trust-related contexts (Boone & Buck, 2003). They are important signals of emotional states and communicate intention to others (Ekman, 1982; Keltner & Haidt, 1999). For example, someone who tends to frequently smile in social situations will appear to be happy and approachable, and therefore, such a person is more likely to be trusted as someone who will engage in cooperative behavior than someone who frequently frowns.

Similarly, face emojis are generally used to communicate emotion in online messages (Derks et al., 2008). The emotional content of a message can be transmitted through social commerce. Adding images such as face emojis increases social presence in electronic communications (Harris & Paradice, 2007; Vilnai-Yavetz & Tifferet, 2015). Face emojis in online messages graphically represent a writer's emotional state so that readers can understand his or her emotions in a more specific manner. Thus, face emojis in online messages can be more easily and quickly processed than verbal text (Hogenboom et al., 2013; Jiang et al., 2015; Buckley et al., 2019; Shahri et al., 2019).

As the most commonly used type of emoticon, face emojis have become part of contemporary culture. Oxford Dictionaries chose the "😂" emoji, which connotes "tears of joy", as their Word of the Year in 2015, as this emoji can concisely express a complicated mood/feeling. Compared with nonface emojis, face emojis are prone to multiple interpretations because of the complexity of the gestures that they depict (Luangrath et al., 2017). Several studies have found that the smiley face, one of the most predominantly used face emojis, can help make the content of messages seem more positive to a reader, while a frowning face makes the message seem more negative (Derks et al., 2008; Lo, 2008; Luor et al., 2010; Walther & D'Addario, 2001). Therefore, based on the arguments stated above, the impression received from face emojis is analogous to that received from real facial expressions, which shows that face emojis can play an integral role in nonverbal communications.

With the rapid penetration of e-commerce businesses, the number of UGRs is rapidly increasing. Although previous studies have discussed the effects of emoticons in UGRs on consumer behavior (Yin et al., 2016; Li & Wu, 2010; Liu et al., 2013), little attention has been paid to the influence of face emojis and the number of such emojis. Specifically, the intensity of expression has been linked to judgments of sincerity and reliability. For instance, people with more intense facial expressions (e.g., laughing out loud) are judged to be more trustworthy and amiable than those with neutral facial expressions (e.g., smiling faintly) (Schmidt et al., 2012).

If face emojis can alter the intensity of the effect of a message, two or more can have an even greater effect. Carey (1980) found that the more nonverbal cues, such as emoticons, multiple exclamation points and capitalized words, there are in a message, the stronger the effect on a reader is. Riordan (2017a) added different numbers of nonface emojis to the end of sentences (e.g., "Lost my keys") to test perceived message reliability when using 0, 1, 2, and 3 of the same emoticons. The result was that the reliability score when adding 1, 2 and 3 emoticon(s) was far higher than that when adding no emoticons, and this was especially true for positive emoticons. In terms of perceived message reliability, there were few differences between adding two emoticons and three emoticons. However, Riordan (2017b) found that the number of nonface emoticons did not mean that statements were regarded in a more positive light; rather, such emoticons merely affirmed the information (e.g., "The party was so exciting"). If nonface emoticons such as that shown in the previous sentence only make information more explicit, there will be no difference in purchase intention or review reliability between when emoticons are added and when they are omitted.

It seems to be the case that face emojis reveal users' current (at the time of writing) real emotions. The greater the number of face emojis added to a statement is, the more intense the emotion is that users seek to express. Tauch and Kanjo (2016) indicated that the emotions of a message are intensified when more emoticons are used. Overall, the authors contend that feelings are intensified by the number of face emojis used. It seems that the higher the number of face emojis used in instant messaging is, the more vivid the picture that is painted, which means that users believe that they can express more emotions in less time using face emojis than merely writing text containing no face emojis. The emotional effect of trustworthiness is transferable to human-computer interactions. When interacting with computer agents, expressions of emotion seen on the computer affect user perceptions of trustworthiness in negotiations (Antos et al., 2011; Rahman et al., 2020; Morrar et al., 2019). Emoticons also play a large part in consumer perceptions of reviews when consumers decide whether to make a purchase (Yin et al., 2016; Li & Wu, 2010; Liu et al., 2013). Thus, the authors propose the following hypotheses:

H1: The number of face emojis added has a positive influence on user review trustworthiness.
H2: The number of face emojis added has a positive influence on user purchase intention.

2.2 The Moderating Effect of Profile Pictures

In most review areas on e-commerce websites, consumers can see user profile pictures. Text, pictures, and video posts are the first impressions of social media. Social media users may have an online

identity that is different from their actual identity, but they project that identity through online activity (Zhao et al., 2008). One particularly important process in the projection of users' online identities is their selection of profile pictures (Wu et al., 2015; Zheng et al., 2016). The reason is that the profile picture is the most prominent part of a user's online profile, and it is often used to identify the user and appears in all of his or her online activities. Taobao also asks account holders to upload pictures to verify their own accounts. The authors observe that this situation is also common in social commerce with the boom in online shopping platforms and the richness of users' review posts.

Previous research has found that participants exhibit greater emotional trust in reviewers who include profile pictures, which in some cases are associated with higher review trustworthiness (Xu, 2014; Vilnai-Yavetz & Tifferet, 2015). Explaining these findings, Xu (2014) noted that uncertainty in interpersonal relationships makes people feel uneasy, and profile pictures reduce the discomfort generated by such uncertainty. The authors observe that in addition to face emojis, profile pictures also increase the trust perception of consumers.

However, people may pay more attention to profile pictures when they appear with other information. Facebook users can express themselves via explicit declarations regarding their interests or favorite books, films, or music (Pempek et al., 2009). Viewers of Facebook profiles rely less on these explicit statements and more on the hints that they find in the pictures that users post (Zhao et al., 2008). For example, when participants assessed the personality of a Facebook user they did not know, their impressions were based primarily on the user's profile picture (Ivcevic & Ambady, 2012). SIP theory proposes that social schemas, which are divided into (1) schema of social events, (2) schema of social figures, and (3) schema of roles (Crick & Dodge, 1994; Taylor & Crocker, 1981), are constantly supplemented and improved in information processing. As an important cue for identifying social figures and social roles, users' profile images have an impact on processors in the processing of face emojis. The social identity information learned from profile images influences the feelings of visitors toward the comments and also has an interactive impact on the feelings created by another information source (face emojis). However, when the profile image interference factor does not appear, the viewer's perception of comments mainly derives from the graphical factor of face emojis, so review trustworthiness and purchase intention are mainly affected by face emojis. Therefore, profile images are used to investigate the moderating effect between the number of face emojis and user perceptions of trustworthiness and purchase intention. The authors propose the following hypotheses:

H3: A profile picture moderates the relationship between the number of face emojis and user review trustworthiness.

H3a: When a profile picture is present, the number of face emojis added does not influence user review trustworthiness.

H3b: When a profile picture is absent, the number of face emojis added has a positive influence on user review trustworthiness.

H4: A profile picture moderates the relationship between the number of face emojis and user purchase intention.

H4a: When a profile picture is present, the number of face emojis added does not influence user purchase intention.

H4b: When a profile picture is absent, the number of face emojis added has a positive influence on user purchase intention.

2.3 The Moderating Effect of the Gift Giver-Recipient Relationship

The above reasoning applies to situations where goods are purchased for self-use. However, situations in which people shop for gifts to give to others are also very common in e-commerce. The influence of face emojis on consumer perceptions may be context specific and, according to

the SIP model (Crick & Dodge, 1994), may be based on social relationships. The person's role in the relationship or the level of the relationship will determine how the information is processed, so different understandings will be obtained. Therefore, the authors further consider the effect of the gift giver-recipient relationship in the gift-giving scenario. Clark and Mills (1993) categorized various forms of gift giver-recipient relationships into exchange relationships and communal relationships. In exchange relationships, individuals hope to obtain corresponding benefits as compensation or as a return when they provide benefits or help to another party. Strangers or business partners are better suited to exchange relationships. In communal relationships, individuals provide benefits or help to another party because they care about the needs of the other party and do not require equal benefits from the other party in return. Most relationships, including those with loved ones and close friends, are communal relationships. These two relational norms cover all types of relationships between gift givers and recipients. The authors take the lead in introducing relational norms into the research on face emoji saliency. The authors assume that in exchange relationships, individuals pay more attention to the return of benefits or compensation; thus, they pay more attention to the function of a product and the value generated by the product itself (Bodur & Grohmann, 2005; Chien-Huang & Yidan, 2018). In this case, when consumers buy goods, they are greatly influenced by product function or brand value, and the influence of reviews on purchase decisions is limited. Therefore, the viewer's perception of the emotional factors in the reviews is low, and the influence on emoji perception and purchase decision is not obvious. In the case of communal relationships and gift giving, consumers are more concerned with their own care and the other party's perception, and they do not require equal benefits in return. In the selection of goods, the gift giver will care more about whether the gift can convey the emotion of the gift giver, and he or she will favor emotional consumption (Komter & Vollebergh, 1997). Therefore, the enhanced emotion-inducing effect of face emojis in comments will attract more attention from consumers, which will have an impact on consumption decisions. In summary, the authors propose the following hypotheses:

H5: The type of relationship between a gift giver and recipient moderates the relationship between the number of face emojis and user review trustworthiness.
H5a: In an exchange giver-recipient relationship, the number of face emojis added does not influence user review trustworthiness.
H5b: In a communal giver-recipient relationship, the number of face emojis added has a positive influence on user review trustworthiness.
H6: The type of relationship between a gift giver and recipient moderates the effect of face emojis on user purchase intention.
H6a: In an exchange giver-recipient relationship, the number of face emojis added does not influence user purchase intention.
H6b: In a communal giver-recipient relationship, the number of face emojis added has a positive influence on user purchase intention.

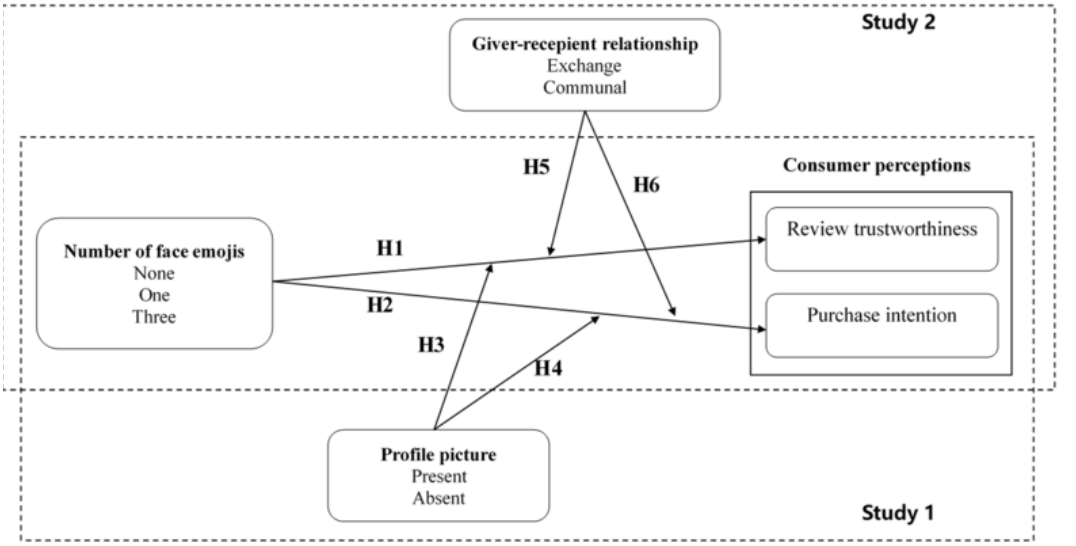
3. METHODS

3.1 Experiment 1

3.1.1 Participants

In the first experiment conducted for this research, 194 graduate students aged between 18 and 34 (M=23.4, SD=3.29, 43% female) from a variety of disciplines at a university in Taiwan participated in exchange for a chance to win a 7-11 gift card worth $20. The study was carried out in accordance with the recommendations of the National Central University Research Committee and with the written informed consent of all of the participants, in accordance with the Declaration of Helsinki.

Figure 2. Proposed hypothesis model



3.1.2 Experimental Design and Procedure

The experiment involved two manipulated factors (Number of face emojis: none or one versus three: Profile picture: present or absent). An experimental online shopping website was developed for this study. Participants performed an online shopping task using the website to purchase an electric fan. The authors chose an electric fan for the experimental target as it is a common appliance that students in Taiwan need and can usually afford. Emoticons are usually placed at the end of a sentence in online reviews of such products (Provine et al., 2007; Skovholt et al., 2014). Thus in the experiment the authors put the face emojis in the review end.

All of the participants were presented with information on the product including a photo (see Appendix A). First, the authors manipulated the face emoji number (see Table 1). And then the participants in the profile picture present condition were exposed to the reviews with face picture. The participants in the profile picture absent condition were exposed to the reviews with system default picture (see Table 2).To eliminate the influence of review sentiment, all participants saw neutral reviews about the product (e.g. A bit flimsy, but it works).

3.1.3 Measures

3.1.3.1 Manipulation Check

The participants were asked to evaluate the type of reviews('I think the reviews express a positive emotion'; 'I think the reviews express a neutral emotion' and 'I think the reviews express a negative emotion'; where 1=strongly disagree and 7=strongly agree) (α=0.82).

3.1.4 Review Trustworthiness

The authors measured perceptions of review trustworthiness similar to Karmarkar and Tormala (2009). The participants were asked to indicate the extent to which they believed that the reviewer was honest and trustworthy. Responses were provided on a scale ranging from 1 (not at all trustworthy) to 7 (very trustworthy) (α=0.87).

Table 1. Number of face emojis change in Experiment 1

	Face emoji number
None	
One	😶
Three	😶😶😶

Table 2. The profile picture change in Experiment 1

	Profile picture
Present	
Absent	

3.1.5. Purchase Intention

The participants were asked to complete a two-item measure of purchase intention similar to that devised by Herbst, Finkel, Allan and Fitzsimons (2011) (e.g.,'I would be likely to purchase this product', 1=strongly disagree, 7=strongly agree; α=0.83). Finally, the participants completed demographic questions: i.e.,gender and age.

3.1.6 Control Variables

Prior research studies have indicated that customers' gender, age, education, occupation, may influence audience perception of review (Kim et al., 2011; Vermeulen & Seegers, 2009). Thus, the aforementioned variables were listed as control variables in for testing the hypotheses of audience level.

3.2. Results

3.2.1 Manipulation Check

The results supported the idea that the manipulation was effective, as the reviews face emojis tended to result in neutral perceptions ($M_{neutral}$=5.13, $M_{positive}$=2.94 vs. $M_{negative}$=2.79, SD=0.87,0.89 vs. 0.81).

3.2.2 Review Trustworthiness

A 3(Number of face emojis: none or one versus three)* 2 (Profile picture: present or absent) analysis of variance based on trustworthiness revealed that the main effect was resulted on face emoji number ($F(2, 188)=10.39$, $p<0.01$) and on profile pictures ($F(1, 188)=22.01$, $p<0.01$). Also, the interaction between profile picture and face emoji number was significant ($F(2, 188)=13.51$, $p<0.01$)(See Table 3).

There was a significant difference in none vs one emoji comparison and one vs three emojis comparison (M_{none}=4.38 vs. M_{one}=4.86, SD=1.45 vs. 1.04; t=0.20, p=0.01; M_{one}=4.86 vs. M_{three}=5.27, SD=1.04 vs. 1.15; t=0.18, p=0.02).Also, the significant difference existed in trustworthiness between none and three emojis (M_{none}=4.38 vs. M_{three}=5.27, SD=1.45 vs. 1.15; t=0.19, $p<0.01$) .The result supports H1.

The authors then undertook a post-hoc analysis. In the profile picture present condition, there was no significant difference in review trustworthiness between none and one emoji (M_{none}=5.26 vs. M_{one}=5.22, SD=0.80 vs. 1.07; $F(1,188)=0.02$, $p=0.89$). Also, the authors did not find a significant difference in one vs three emojis comparison and none vs three emojis comparison (M_{one}=5.22 vs. M_{three}=5.13, SD=1.07 vs. 0.92; $F(1,188)=0.12$, $p=0.73$; M_{none}=5.26 vs. M_{three}=5.13, SD=0.80 vs. 0.92; $F(1,188)=0.21$, $p=0.65$). In the profile picture absent condition, there was significant difference in review trustworthiness between none and one emoji (M_{none}=3.46 vs. M_{one}=4.53, SD=1.41 vs. 0.91; $F(1,188)=14.84$, $p<0.01$). And, none and three emojis frame have significant difference in review trustworthiness (M_{none}=3.46 vs. M_{three}=5.41, SD=1.41 vs. 1.34; $F(1,188)=11.67$, $p=0.01$). The authors also find a significant difference in one vs three emojis comparison (M_{one}=4.53 vs. M_{three}=5.41, SD=0.91 vs. 1.34; $F(1,188)=46.77$, $p<0.01$)(see Figure 3). This result supported H3, H3a and H3b.

3.2.3 Purchase Intention

A 3(Number of face emojis: none or one versus three)* 2 (Profile picture: present or absent) analysis of variance (ANOVA) analysis of variance based on purchase intention revealed that the main effect were resulted on number of face emojis($F(2, 188) =4.36$, $p=0.01$) but did not for profile picture ($F(1, 188)=1.02$, $p=0.32$).Also, the interaction between number of face emojis and profile picture was not significant ($F(2, 188)=0.08$, $p=0.92$). The result did not support H4(Table 4).

The authors found a significant difference in none vs one emoji comparison and none vs three emojis comparison (M_{none}=3.81 vs. M_{one}=4.29, SD=1.02 vs. 0.98; t=0.18, p=0.01; M_{none}=3.81 vs. M_{three}=4.31, SD=1.02 vs. 1.09; $F(1,188)=0.96$, $p=0.03$).But there was not a significant difference in purchase intention between one and three emojis (M_{none}=4.27 vs. M_{one}=4.36, SD=1.29 vs. 0.96; $F(1,188)=0.10$, $p=0.75$). The result partially supported H2.

Table 3. Results of Two-way ANOVA for Review Trustworthiness

	SS	***Df***	***MS***	***F***	***P***
Face emoji number (A)	24.52	2	12.26	10.39	0.00
Profile picture (B)	25.96	1	25.96	22.01	0.00
A*B	31.86	2	15.93	13.51	0.00
Error	221.72	188	1.18		

Figure 3. Results of Two-Way Analysis of Variance for Review Trustworthiness

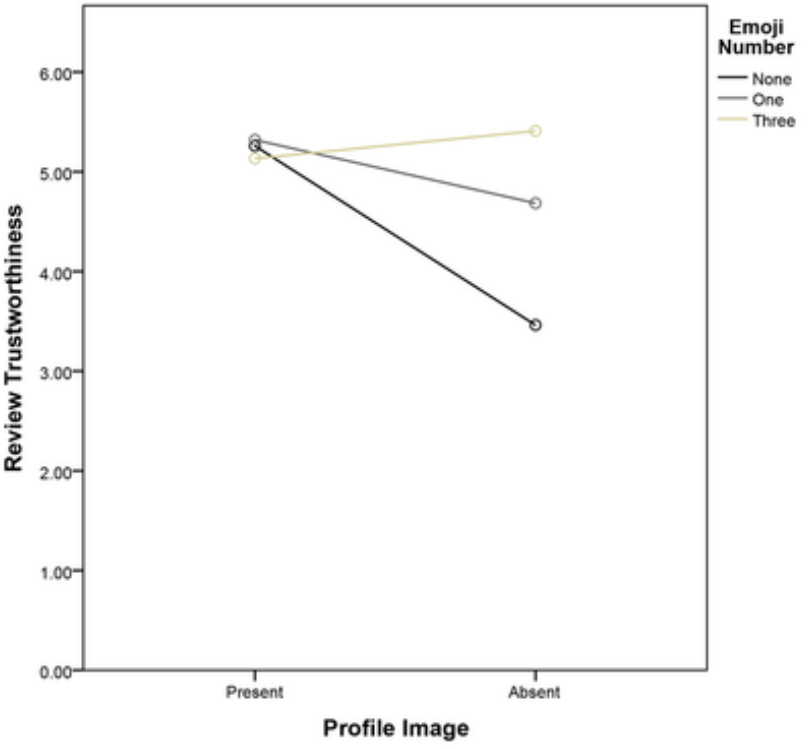


Table 4. Results of Two-way ANOVA for Purchase Intention

	SS	*df*	*MS*	*F*	*p*
Number of face emojis (A)	9.37	2	4.69	4.36	0.01
Profile picture (B)	1.09	1	1.09	1.02	0.32
A*B	0.18	2	0.09	0.08	0.92
Error	201.96	188	1.07		

3.3 Experiment 2

3.3.1 Participants

180 graduate students aged between 21 and 35 (M=27.3, SD=2.19, 45% female) from a variety of disciplines at a university in Taiwan participated in exchange for a chance to receive a 7-11 gift card worth $20. The study was carried out in accordance with the recommendations of the National Central University Research Committee and with the written informed consent of all of the participants, in accordance with the Declaration of Helsinki.

3.3.2 Experimental Design and Procedure

The experiment involved two manipulated factors (Number of face emojis: none or one versus three; Relationship type: exchange vs communal). The participants were invited to evaluate a preserved flower product (see Appendix B). The authors chose a preserved flower as it is regarded as a popular gift selection in Taiwan.

First, the authors manipulated the relationship type similar to Aggarwal (2004). In the exchange relationship condition, participants were told to imagine that they had frequently visited the restaurant over the past 5 years, that they were happy with the restaurant's quality, that restaurant had provided excellent service. And Chris the owner of restaurant had always fulfilled their requests in the past, therefore they have a good friendship with Chris. In the communal relationship condition, participants were told that they had a good friend named Chris who run a restaurant. They had known Chris for five years and visited his restaurant frequently. They had always associated Chris with positive feelings and had always a very pleasant and warm interaction with him. After above different instruction, participants were told that Chris's birthday was coming up and they were going to give him preserved flower as gift. And then the authors manipulated the review and number of face emojis used similar to experiment 1.

3.3.3 Measures

3.3.3.1 Manipulation Check

The participants were asked to evaluate the type of reviews('I think the reviews express a positive emotion'; 'I think the reviews express a neutral emotion' and 'I think the reviews express a negative emotion'; where 1=strongly disagree and 7=strongly agree).Also, participants expressed their feelings about the reasonableness of the gift as preserved flower('I think the preserved flower in the questionnaire is a suitable gift'; where 1=strongly disagree and 7=strongly agree) (α=0.84).

3.3.3.2 Review Trustworthiness

The authors measured perceptions of review trustworthiness on similar to those devised by Karmarkar and Tormala (2009), with participants asked to indicate the extent to which they believed that the reviewer was honest and trustworthy. The responses were provided on a scale ranging from 1 (not at all trustworthy) to 7 (very trustworthy) (α=0.83).

3.3.4 Purchase Intention

The participants were asked to complete a two-item measure of purchase intention similar to that found in the work of Herbst, Finkel, Allan and Fitzsimons (2011) (e.g., 'I am likely to purchase this product'; 1=strongly disagree, 7=strongly agree; α=0.91). Finally, the participants completed demographic questions: i.e., gender and age.

3.3.5. Control Variables

Prior research studies have indicated that customers' gender, age, education, occupation, may influence audience perception of review (Kim et al.,2011; Vermeulen & Seegers, 2009). Thus, the aforementioned variables were listed as control variables in for testing the hypotheses of audience level.

3.4 Results

3.4.1 Manipulation Check

The results supported the idea that the manipulation was effective, as the reviews face emojis tended to result in neutral perceptions ($M_{neutral}$=5.36, $M_{positive}$=3.01 vs. $M_{negative}$=2.99, SD=0.98,0.72 vs. 0.81).And participant participants agreed with the reasonableness of the preserved flower as gift(M=5.89,SD=1.02).

Table 5. Results of Two-way ANOVA for Review Trustworthiness

	SS	*Df*	*MS*	*F*	*p*
Number of face emojis (A)	41.48	2	20.74	17.47	0.00
Relationship type (B)	4.13	1	4.13	3.48	0.06
A*B	8.38	2	4.19	3.53	0.03
Error	206.54	174	1.19		

3.4.2 Review Trustworthiness

A 3(Number of face emojis: none or one versus three) * 2(Relationship type: Exchange versus Communal) analysis of variance based on trustworthiness revealed that the main effect was resulted on number of face emojis ($F(2,174)=17.47$, $p<0.01$) . The result further supports H1. Also, the interaction effect between face emoji number and relationship type was significant ($F(2,174)=3.53$, $p=0.03$). The result support H5 (see Table 5).

There was a significant difference in none vs one emoji comparison and one vs three emojis comparison ($M_{none}=4.02$ vs. $M_{one}=4.82$, SD=0.86 vs. 1.17; $t=0.21$, $p<0.01$; $M_{one}=4.82$ vs. $M_{three}=5.25$, SD=1.17 vs. 1.21; $t=0.19$, $p=0.03$). Also, the significant difference existed in trustworthiness between none and three emojis ($M_{one}=4.02$ vs. $M_{three}=5.25$, SD=0.86 vs. 1.21; $t=0.20$, $p<0.01$). The result further supported H1.

The authors then undertook a post-hoc analysis. In the exchange relationship condition, there was a significant difference in perceived review trustworthiness between using none face emojis and using one ($M_{none}=4.21$ vs. $M_{one}=5.21$, SD=0.93 vs. 1.37; $F(1,174)=11.79$, $P<0.01$). Also there was a significant difference between using none face emojis and using three ($M_{none}=4.21$ vs. $M_{three}=5.13$, SD=0.93 vs. 1.39; $F(1,174)=9.66$, $P<0.01$). However, the one and three face emojis prime did not report a significant difference ($M_{one}=5.21$ vs. $M_{three}=5.13$, SD=1.37 vs. 1.39; $F(1,174)=0.08$, $P=0.77$).

In the communal relationship condition, there was a significant difference in review trustworthiness between using none face emojis and using one ($M_{none}=3.84$ vs. $M_{one}=4.43$, SD=0.76 vs. 0.69; $F(1,174)=4.17$, $P=0.04$). Again the one and three face emojis prime reported a significant difference ($M_{one}=4.43$ vs. $M_{three}=5.36$, SD=0.69 vs. 1.03; $F(1,174)=12.09$, $P<0.01$). Meanwhile, there was a significant difference in review trustworthiness between using none face emojis and using three ($M_{none}=3.84$ vs. $M_{three}=5.36$, SD=0.76 vs. 1.03; $F(1,174)=27.29$, $P<0.01$) (see Figure 4). The result supported H5a and H5b.

3.4.3 Purchase Intention

A 3(Number of face emojis: none or one versus three) * 2(Relationship Type: exchange vs communal) analysis of variance based on trustworthiness revealed that the main effect was resulted on number of face emojis ($F(2,174)=11.81$, $p<0.01$)and relationship type ($F(1,174)=16.64$, $p<0.01$).Also, the interaction effect between emoji number and purchase intention was significant ($F(2,174)=5.72$, $p<0.01$). The result supports H6 (see Table 6).

There was a significant difference in none vs three emojis comparison and one vs three emojis comparison ($M_{none}=4.12$ vs. $M_{three}=5.05$, SD=0.89 vs. 1.23; $t=0.29$, $p<0.01$; $M_{one}=4.44$ vs. $M_{three}=5.05$, SD=1.11 vs. 1.23; $t=0.19$, $p=0.01$). However, the significant difference did not exist in trustworthiness between none and one emoji ($M_{none}=4.12$ vs. $M_{one}=4.44$, SD=0.89 vs. 1.11; $t=0.20$, $p=0.12$). The result partially supported H2.

The authors then undertook a post-hoc analysis. In the exchange relationship condition, we did not observe a significant difference in perceived review trustworthiness between using none face emojis and using one ($M_{none}=4.13$ vs. $M_{one}=4.15$, SD=1.03 vs. 1.08; $F(1,174)=0.01$, $P=0.94$). Also there was not a significant difference between using none vs using three and using one vs using three

Figure 4. Results of Two-Way Analysis of Variance for Review Trustworthiness

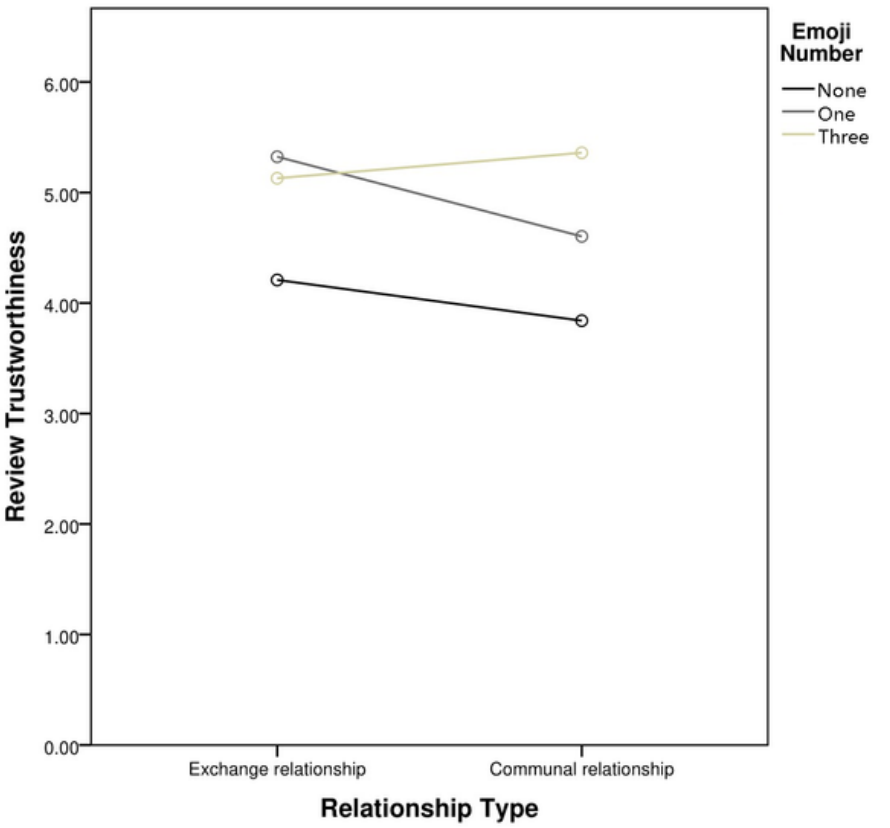


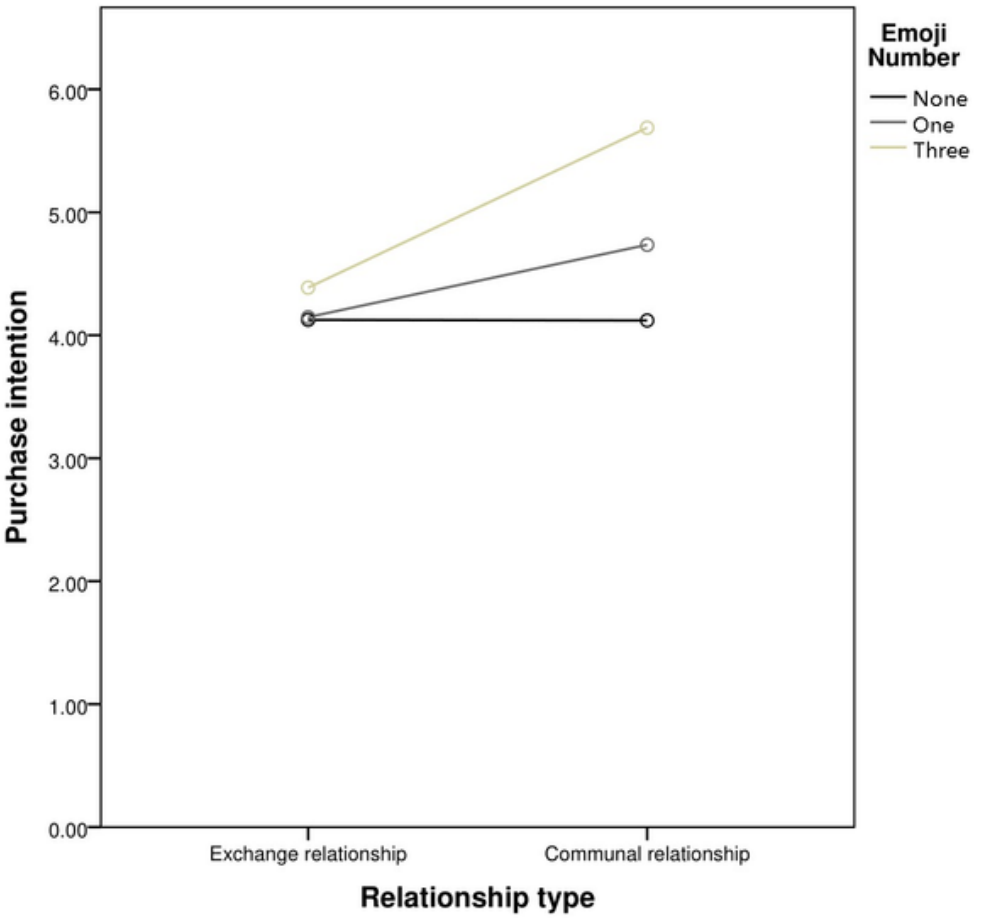
Table 6. Results of Two-way ANOVA for Purchase Intention

	SS	*Df*	*MS*	*F*	*p*
Face emoji number (A)	24.68	2	12.34	11.81	0.00
Relationship type (B)	17.39	1	17.39	16.64	0.00
A*B	11.95	2	5.97	5.72	0.00
Error	181.88	174	1.05		

face emojis (M_{none}=4.13 vs. M_{three}=4.39, SD=1.03 vs. 1.05; F(1,174)=0.89, P=0.35; M_{one}=4.15 vs. M_{three}=4.39, SD=1.03 vs. 1.05; F(1,174)=0.88, P=0.34).

In the communal relationship condition, there was a significant difference in review trustworthiness between using none face emojis and using one (M_{none}=4.12 vs. M_{one}=4.74, SD=0.74 vs. 1.08; F(1,174)=5.22, P=0.02). Again the one and three face emojis prime reported a significant difference (M_{one}=4.12 vs. M_{three}=5.69, SD=1.08 vs. 1.05; F(1,174)=14.30, P<0.01). Meanwhile, there was a significant difference in review trustworthiness between using none face emojis and using three (M_{none}=4.12 vs. M_{three}=5.69, SD=0.74 vs. 1.05; F(1,174)=32.91, P<0.01) (see Figure 5). This result supported H6.

Figure 5. Results of Two-Way Analysis of Variance for Purchase Intention



4. GENERAL DISCUSSION

Both Experiment 1 and Experiment 2 provide evidence of the validity of the hypothesis that a greater number of face emojis correlates with a greater degree of review trustworthiness. Meanwhile, the authors observe that the effect of emojis on purchase intention changes depending on the situation. These results suggest that user perceptions come not only from textual content but also from face emojis; this finding fills a gap in the literature on the impact of trustworthiness in social commerce.

The authors also test the boundary conditions for the effectiveness of the number of face emojis in UGRs. Specifically, Experiment 1 demonstrated that when profile pictures appeared, the number of face emojis added had no effect on review trustworthiness. This result reinforces previous findings showing that consumers pay more attention to profile pictures when they appear with other information (Zhao et al., 2008; Ivcevic & Ambady, 2012). However, in the absence of profile pictures, the number of face emojis (none, one, three) added resulted in a significant difference in review trustworthiness, further demonstrating the value of research on face emojis. In addition, in Experiment 2, the authors found that the gift giver-recipient relationship moderated the effect of the number of face emojis added on user review trustworthiness and purchase intention. Consumers perceived reviews with

more face emojis to be more reliable and respond more purchase intention in communal relationship between the gift giver and the recipient. However, only in exchange relationships did the appearance vs. absence of face emojis in UGRs produce a significant difference in review trustworthiness. In general, when the relationship between the gift giver and the gift recipient is communal, the number of face emojis is a vital factor in the gift selection process.

4.1 Theoretical Contributions

From a theoretical perspective, the results of this study contribute to the emerging literature on text-based nonverbal communication by exploring the link between the number of face emojis added in UGRs and consumer perceptions, a link that was recently proposed by Riordan (2017a). He proved that the more nonface emojis there were in a review, the greater the message reliability. However, the effect of face emojis and the number of such emojis in nonverbal communication has not been examined. Second, going beyond advertisements, the authors explore face emojis in a new domain (UGRs) of the marketing literature and incorporate two categories of outcome variables (purchase intention and review trustworthiness) (Das, 2019).

The authors also contribute to the literature on UGRs. Previous studies have focused on the impact of reviews on customer perceptions of products in terms of the length of reviews, the writing style of reviewers, the timeliness of reviews, consumer ratings, and the impact of reviewers' identity-descriptive information on consumer perceptions (Liu et al., 2008; Otterbacher, 2009; Forman et al., 2008; Danescu-Niculescu-Mizil et al., 2009). The results of this study suggest that face emojis are also a key factor affecting consumer perceptions and purchase decisions. Additionally, there are details regarding face emojis in UGRs that have not been studied before. Miller et al. (2016) demonstrates that readers may misunderstand the actual expressions and moods of face emoticons sent from different platforms, but the differences in perceptions caused by the number of emoticons used have not been discussed before. The experiments validate the importance of the number of emoticons.

Additionally, previous studies on user profile images have almost exclusively focused on social networking sites (SNSs), such as Facebook (Vilnai-Yavetz & Tifferet, 2015; Ivcevic & Ambady, 2012; Wang et al.,2010). Studying trust and credibility in the UGR context, Xu (2014) found that participants showed strong affective trust in reviewers who included a profile image. However, in the process of reading reviews, in addition to attending to the content of the user profile, consumers pay attention to the content in other areas, such as the text of reviews, face emojis, and product ratings. This study explored the impact on consumer perceptions when profile images and face emojis appear simultaneously in UGRs. The authors found that viewers of UGRs relied less on face emojis and more on profile images. These results further prove the importance of profile images.

Finally, existing studies have addressed either only the general purpose of motivating the purchase of online goods and gifts or only the purchase of goods as commercial gifts (Clark & Mills, 1993; Bodur & Grohmann, 2005; Chien-Huang & Yidan, 2018). This paper distinguishes between two situations of commodity purchases in terms of personal use and gift giving and then further subdivides the behavior of gift giving based on relational norms, connecting relational norms with face emojis. The results show that when the relationship between a consumer and a gift recipient is a communal relationship, the gift giver cares more about whether his or her emotions will be felt by the gift recipient. The appearance of face emojis echoes the gift giver's need for trust and sincerity, thus becoming an important factor in purchase decisions. In an exchange relationship, the gift giver pays more attention to the commercial value and social significance of the gift and therefore pays more attention to the function and added value of the product, ignoring the trust added by face emojis. Thus, this study can serve as a deeper theoretical reference for existing research on relational norms in the gift-giving process.

4.2 Practical Implications

Recent reports have shown that the number of UGRs is growing at an exponential rate (Eslami et al., 2018; Singh et al., 2017). For instance, according to the review forum Yelp, its users provide approximately 24,000 new online UGRs each minute (Shrestha, 2016). Although online consumer reviews are aggregated, from a consumer perspective, it is difficult to go through all available UGRs (BrightLocal, 2016). In this regard, how to display consumer reviews to make products more popular is of significant interest.

As the largest global internet commerce company, Amazon (www.amazon.com) presents reviews based on a star rating weight, and the third largest global internet company, JD (www.jd.com), shows UGRs in chronological order (Wikipedia contributors, 2018). Current research suggests that enlightened marketers focus increasingly on face emojis in UGRs. Doing so provides businesses a new means of understanding consumer perceptions of products, from which they can benefit by improving sales and policies. Organizations should display positive reviews with face emojis in a conspicuous area of their review pages to boost source user trust and purchase intention. In addition, merchants should pay attention to the impact of the number of face emojis in reviews on product reputation to develop better promotion strategies. Other information presented in sync with face emojis is also worth noting. For example, this article demonstrates that the appearance of profile images can moderate consumer perceptions. Moreover, when providing consultation services to customers, staff should recommend products with comments that can promote purchase intention by combining the attributes of the product and the gift giver-recipient relationship. It seems clear that e-commerce consumer review text that contains face emojis has an impact on consumers' interest in feedback, which is increasingly integral to the overall success or failure of products and companies. This is valuable knowledge for all actors involved in product marketing and sales.

4.3 Limitations and Future Research

The authors recognize several limitations of this work and propose future research in light of these limitations. First, profile images in social media serve the purpose of impression management. In impression management, people seek to construct an image of themselves based on their ideas of how others will interpret that image (Leary & Kowalski, 1990). In this study, the authors did not explore whether, from the viewer perspective, the image created by profile images is different from the image created by reviews, which will cause differences in consumer perceptions. For example, some aspects (clothes and a warm smile) of a user's profile image give the viewer a very positive impression, but others (dejected face emojis, text with a complaining tone) give a very negative impression. Does such inconsistency impact consumer perceptions? Moreover, despite their usefulness in enriching communication, face emoticons are prone to multiple interpretations because of the complexity of the gestures that they depict (Luangrath et al., 2017). For example, ("grinning face with big eyes") and ("face savoring delicious food") both express the idea of happiness but represent diverse concepts. Thus, the authors would like to compare different intense face emojis in a future study. Another interesting avenue of future work lies in the differences between systems. Miller et al. (2016) found that misunderstandings of face emoticons can occur whether the same or different platforms are used. Each platform, such as iOS and Android, has its own specific way of displaying facial emoticons and its own set of unique face emoticons. Both the sender and receiver on a platform read the same type of emoticons, but they read a different type if they interact using different platforms. The authors will explore whether different systems affect consumer perceptions of face emojis in further research. This paper focuses on the relationship between face emojis and consumer perception. However, in UGRs, comments are mostly made with text messages and face emojis. Do the content and wording

of text messages interact with face emojis to affect consumer perception? This point can be further discussed in future studies.

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APPENDIX 1

Target Product Used in Experiment 1

Remote Control Stand Fan

- 16-inch pedestal fan with fully adjustable height
- Tilt-back head feature and wide area oscillation
- Three quiet speeds and auto-off timer
- Convenient remote control
- Simple "no tools" assembly
- Includes patented fused safety plug

APPENDIX 2

Target Product Used in Experiment 2

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