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# THE PERSUASIVE IMPACT OF EMOTICONS IN ONLINE WORD-OF-MOUTH COMMUNICATION

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# THE PERSUASIVE IMPACT OF EMOTICONS IN ONLINE WORD-OF-MOUTH COMMUNICATION

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## Abstract

*The present research proposes a conceptual framework to examine the effect of emoticons on online WOM persuasion. Using a laboratory experiment, we demonstrate that emoticons enhance recipients' empathy for the communicator, and this effect is moderated by message valence. Enhanced empathy heightens perceived trustworthiness of the communicator and perceived quality of the message, both of which lead to an increase in the persuasiveness of the WOM message. We conclude by discussing the contributions of this research and identifying the directions for future research.*

*Keywords: emoticon, electronic Word-of-Mouth (eWOM), online product review, empathy, persuasion*

# 1 INTRODUCTION

Emoticons are graphic representations used to indicate communicators' feelings or emotional status (Crystal 2001; Walther & D'Addario 2001). Examples of well-known emoticons include the smiley face :) and the frowny face :( . Emoticons have been used extensively in computer/smartphone-mediated communications.<sup>1</sup> In 2007, Yahoo surveyed 40,000 instant-messenger users and found that 82% used emoticons. E-mail software provider IncrediMail reported that nearly 90 percent of 10,000 survey respondents have used emoticons to enhance an e-mail. In 2011 Apple added emoticons to its iOS5 operating system and named them as "emoji."

The pervasive use of emoticons in electronic messages and Web pages makes it essential to understand how emoticons would affect communication. In particular, people often share their personal experience with the product they have purchased using platforms such as instant messaging, social network websites, online product forums, and online product review systems. These word-of-mouth (WOM) communications constitute a persuasive environment that influences consumers' product attitude and purchase decision (Chevalier & Mayzlin 2006; Godes & Mayzlin 2004; Zhu & Zhang 2010). Among these platforms, some are featured with emoticons (e.g., Facebook and twitter), while others are not (e.g., yelp.com). This observation leads to an intriguing research question: would emoticons affect the persuasiveness of WOM communication?

Answers to this question are relevant to both WOM communicators and platform designers. However, this question has received conflicting answers from the extant literature. Proponents believe that emoticons work in the same way as nonverbal cues in face-to-face communication (Walther & D'Addario 2001). They can help to express a feeling, accentuate message content (Crystal 2001; Walther & D'Addario 2001), and form impression of the communicator's disposition by providing social and affective cues about that person (Thompson & Foulger 1996). Thus, when used in WOM communication, emoticons are expected to reduce ambiguity of the communicator's attitude toward the product and enhance the social interactions between the communicator and the recipients, both of which will increase the persuasiveness of WOM communication (Herr, Kardes, & Kim 1991; Kiesler, Siegel, & McGuire 1984). In contrast, opponents assert that emoticons have only a limited ability to substitute nonverbal cues and they do not offer significant improvements to computer-mediated communication (Antonijevic 2005). Further, emoticons have been perceived as an immature communication tool and an undignified form of discourse (Buchanan 2010). These perceptions may hurt the credibility and liking of the communicator. In this circumstance, emoticons are likely to affect WOM communication in negative ways. The existence of these conflicting views leaves it unclear as to whether or not emoticons can make WOM communication more persuasive.

The present research aims to answer this question by proposing a conceptual framework that incorporates the effect of emoticons on the persuasiveness of WOM communication as well as the underlying mechanisms of this effect. Drawing on the literatures on empathy, persuasion, and computer-mediated communication, we propose that emoticons enhance recipients' empathy for the message communicator and this effect is moderated by the valence of WOM message. Empathy positively affects perceived trustworthiness of the communicator and perceived quality of the WOM message, both of which in consequence increase the persuasiveness of WOM communication.

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<sup>1</sup> In this paper, we treat smartphone as a specific type of computer. Therefore, we use computer-mediated communication (CMC) to indicate both computer- and smartphone-mediated communications.

## 2 EMOTICONS AS NONVERBAL CUES IN COMPUTER-MEDIATED COMMUNICATION

Compared to face-to-face communication whereby the interaction partners are being together at the same place, computer-mediated communication is characterized by the physical absence of the other person during the interaction (Manstead, Lea, & Goh 2011). The lack of visibility of the interaction partner makes most of the nonverbal cues used in face-to-face communication (e.g., facial expressions, tones, and gestures) hardly usable when people communicate via computers (Otondo, Scotterb, Allenc, & Palviad 2008; Walther & D'Addario 2001). Emoticons are thus invented as analogies of facial expressions or even body languages to replicate some of these cues in written form, conveying emotional and social information in the context of computer-mediate communication.

Emoticons can be classified on two dimensions—valence and format. By valence, emoticons can be divided into positive, negative, or neutral/ambiguous (Derks, Fischer, & Bos 2008). Compared to neutral ones, positive and negative emoticons are more frequently used and are more influential in shaping recipients' evaluations of the message (Luor et al. 2010). By format, emoticons can be classified into typographic or graphic (Huang, Yen, & Zhang 2008). A typographic emoticon, such as “:-)” or “:-(,” uses textual ASCII characters to simulate facial expressions in an abstract and concise manner. A graphic emotion, on the other hand, is designed with a bitmap or GIF image, which allows for a vivid expression of emotional cues (e.g., 😊 for liking and 😞 for disliking) as well as other nonverbal cues (e.g., 🙌 for shaking hands). Since typographic emoticons have limited options and the emotional cues conveyed through them are relatively simple, emoticons provided in today's computer-mediated communication applications are mostly graphic-based (Huang, et al. 2008). In this research, we focus on liking and disliking, the two most frequently expressed emotions in the context of feedback delivery through computer-mediated communication (Trees & Manusov 1998), and use graphic emoticons to examine their impact on the persuasiveness of positive and negative WOM, respectively.

Previous studies on emoticons fall into two streams. The first stream takes a communicator's perspective and examines the influencing factors of emoticon usage in computer-mediated communication. Researchers find that people use emoticons mainly to convey emotions, strengthen messages, and express humor (Derks, Fischer, et al. 2008). In addition, emoticons are more frequently used when the interaction partner is friend (vs. strangers), when the valence of the context is positive (vs. negative), and when the interaction is socio-emotional (vs. task-oriented). Gender is another important moderator of emoticon usage. It is found that women use emoticons more frequently than do men (Witmer & Katzman 1997). This finding is in accordance with the gender differences in face-to-face communication, in which women are found to be more emotionally expressive than men (Timmers, Fischer, & Manstead 1998). Further, Wolf (2000) shows that the gender difference in emoticon usage is more salient in same-sex communication. For mixed-sex communication, both women and men display an increase in emoticon usage. In addition, women and men have different motivations for emoticon usage. Specifically, women tend to use emoticons to communicate solidarity, support, thanks, and assertion of positive feelings, whereas males often use them to communicate sarcasm.

The second stream of studies takes a recipient's perspective and examines the impact of emoticons on computer-mediated communication. Researchers find that emoticons are used to convey affective information. Thus, message communicators are perceived as happier when they use positive emoticons than when they do not. However, this effect is less salient for negative emoticons (Byron & Baldrige 2005; Ip 2002; Walther & D'Addario 2001). Emoticons can also affect message interpretation, especially for positive ones. When used in combination with messages in the same valence, emoticons increase the intensity of the message (positive messages perceived as more positive and negative messages perceived as more negative). When used in combination with messages in the opposite valence, emoticons can tone down the expression (Derks, Bos, & Grumbkow 2008; Thompsen &

Foulger 1996). For example, Thompsen and Foulger (1996) investigate the effect of emoticons on perceptions of flaming (hostile verbal behavior) in emails. They find that an emoticon used in combination with verbal “flaming” messages can reduce perceived hostility of the message and that this effect diminishes as the intensity of hostility increases. The effect of emoticons on message interoperation, however, has received inconsistent findings. Walther and D’Addario (2001) have shown that emoticons would influence recipients’ interpretation of communicators’ emotional status, but not their attitude toward the focal object.

The impact of emoticons can go beyond message interpretation and extend to the perceptions of message communicators. Emoticons were originally invented to clarify whether a written comment was serious or a joke. Probably due to the association with “joke”, emoticons have been regarded as an immature communication tool that is mainly popular among younger groups, who lack the communicative skills to make their messages sufficiently clear without using emoticons (Crystal 2001; Mandel & Leun 1996). Emoticon users are also perceived to be unprofessional and lazy, especially in a business communication context (Boldea & Nadia 2008). On the other hand, emoticons may have a positive impact on user perceptions. A study of chat room moderators shows that the moderators who use emoticons are perceived as more “dynamic”, “valuable”, “talkative,” and “friendlier” than those who do not use emoticons (Constantin 2002). More recently, Wang et al. (2014) examine the impact of emoticons on acceptance of negative performance feedback. The authors show that disliking emoticons decrease perceived good intention of the feedback provider and increase perceived feedback negativity. Both effects lead to less acceptance of the negative feedback.

### **3 THEORETICAL BACKGROUND AND CONCEPTUAL FRAMEWORK**

#### **3.1 Empathy**

Empathy has been defined broadly as the reactions of one individual to the affective or psychological state of another (Davis 1983; Preston & Waal 2002). It occurs when the attended perception of another person’s psychological state activates the recipient’s representations of that state, and this activation automatically primes or generates the associated automatic and somatic responses, unless prohibited (Preston & Waal 2002). Empathic reactions are multifaceted, mainly including a cognitive component and an affective component (Hoffman 1977). The cognitive component of empathy refers to the awareness or recognition of another person’s feelings (Ickes et al. 1990; Kurdek & Rodgon 1975), whereas the affective component refers to the vicarious affective responses to another’s feelings, which are often designated as the sharing of feelings, at least at the gross affect level (pleasant-unpleasant) (Batson et al. 1995). The cognitive and affective components of empathy are closely related and sometimes intertwined with each other (Decety & Jackson 2004; Escalas & Stern 2003).

The concept of empathy has received increasing attention in recent years, mainly due to its power to promote prosocial behavior. Researchers have shown that empathy activates an altruistic motivation, thus leading people to be more willing to help others and even forsake justice in order to benefit the person with who one empathizes (Bagozzi & Moore 1994; Batson et al. 1981; Batson, et al. 1995). Empathy can also inhibit interpersonal aggression (Richardson et al. 1994), improve the feeling toward a stigmatized group (Batson et al. 1997), and relieve intergroup conflict by improving individuals’ attitude toward the members of group involved in conflict (Bruneau & Saxe 2012).

In addition to the social function, empathy also has important implications for persuasive communication. Aaker and Williams (1998) show that compared to self-focused emotional appeals, other-focused emotional appeals that are empathetic in nature will induce more favorable attitude toward the product in advertisement, especially for members of a collective (vs. individualistic) culture. Rotemberg (2010) examines empathy and persuasion in salesperson-consumer interactions and discusses under what conditions salespersons’ empathy toward consumers is positively related to sales. In health care industry, empathy has been found to be a key component of effective mental

health counseling (McLeod 1999; Pope & Kline 1999), thus prompting the requirement in top medical schools that students spend valuable time trailing a patient rather than a doctor (Thomburgh 2006). These studies have focused on empathy in message production and demonstrated the persuasive effect of communicators' empathy for recipients.

Another line of research, which is more relevant to this study, focuses on empathy in message processing and examines its effect on persuasion from a recipient's perspective. In the advertising context, researchers show that a successful and persuasive advertising drama is likely to induce audiences to become absorbed into the story and experience the concerns and feelings of the characters. This empathy will lead to favorable evaluations of the object in advertisement (Argo et al. 2008; Escalas & Stern 2003). Empathy has also been found to mitigate recipients' psychological reactance to persuasive messages and thus enhance the persuasiveness of public service announcements (e.g., antismoking and drunk driving announcements) (Campbell & Babrow 2004; Shen 2010).

### **3.2 Effect of Emoticons on Empathy**

We propose that emoticons will enhance recipients' empathy for the WOM communicator by facilitating both emotion recognition and sharing. An emotional response involves concerted changes in a large number of somatic parameters including endocrine, visceral, autonomic, and musculoskeletal changes; facial expressions are one of the primary musculoskeletal changes (Ekman 1993). The biological association between emotion and facial expressions allows one person to recognize the emotion of another from the face, at least for basic emotions such as happiness, fear, surprise, anger, disgust, and sadness (Edwards 1998; Ekman & Friesen 1971; Izard 1984). People discriminate, categorize, and identify emotions on the basis of the geometric visual properties of the face (Regenbogen, et al. 2012). In some circumstance, such perceptual processing could be linked directly to language-related regions of the brain to produce the name of the emotion, without retrieving knowledge associated with the facial expressions (e.g., recognize the emotion of fear from a scared face). In other circumstance, perceptual processing of a facial expression activates its associated knowledge, which enables people to identify the emotion (e.g., recognize the emotion of fear from a screening face) (Adolphs 2002).

In the context of computer-mediated communication, emoticons are used as analogies of facial expressions. When a communicator feels an emotion and is not trying to disguise it, the emoticon she uses in the WOM message will replicate the expressions that would be on her face if she shared the product experience with others in face-to-face communication. With this information, recipients can recognize the affective state of the WOM communicator, which is much easier compared to the circumstance when no emoticons are used and recipients have to identify the communicator's emotion from the textual content (Regenbogen et al. 2012).

Facial expressions are also essential to emotion sharing. People are predisposed to react emotionally to facial stimuli, and, in particular, to have facial reactions to facial expression (Hess & Blairy 2001). When exposed to pictures of emotional facial expressions, people are found to spontaneously and rapidly react with distinct facial electromyographic reactions in muscles relevant for positive and negative emotions. Specifically, happy faces will spontaneously evoke increased zygomatic major muscle activity, whereas angry faces will evoke increased corrugator supercillii muscle activity (Dimberg 1990, 1997). The zygomatic muscle elevates the lips to form a smile, whereas the corrugator muscle knits the eyebrows during a frown (Cacioppo et al. 1986). These findings suggest that viewing the facial expression of another will evoke corresponding expressions on one's own face, which leads to changes in one's own emotional state. Thus, viewing facial expressions will result in emotion sharing (Hess & Blairy 2001; Schneider et al. 1994; Wild et al. 2001).

Computer-mediated communication is characterized by the physical absence of partners (Manstead, Lea, & Goh 2011), which increases the difficulty of emotion sharing because the communicator's facial expressions are now invisible to recipients. When emoticons are used, however, recipients can

vividly image the facial expressions that would otherwise appear on the communicator's face when they were communicating face to face. The mental representation of the communicator's facial expressions can also elicit recipients' emotional responses through an automatic process including imitation and emotion generation (Adolphs 2002). Therefore, emoticons can help recipients overcome the lack of the communicator's facial expressions in interaction and thus facilitate emotion sharing.

On the basis of the above discussion, we form the following hypothesis:

*H<sub>1</sub>: Emoticons increase recipients' empathy for the WOM communicator.*

Further, we propose that emoticons lead to a higher level of empathy when used in negative than positive WOM messages. A negativity bias has long been documented in the empathy literature, suggesting that adults as well as young children are more likely to respond empathetically to salient expressions of negative than positive emotions in others (Rozin & Royzman 2001; Thompson 1987). In addition, disliked people are found to produce a larger contagion effect than do liked people, implying that negative events have more contagiousness than positive ones (Rozin et al. 1986).

A number of theories have been documented to account for the preponderance of negative empathy. From a cognitive perspective, people's cognition is more complex, elaborated, and fine-tuned when it comes to the occurrences of negative events because negative events are much rarer than positive events (Peeters & Czapinski 1990). Alternatively, an adaptive perspective suggests that the hypothesized functions of empathic arousal in human adaptation enlist empathy primarily in response to others' negative experience. On one hand, negative events often involve threat and danger, so people are highly sensitive to negative cues for self protection purposes (Thompson 1987). On the other hand, the experience of negative empathy is likely to motivate helping behaviors that, at least for related others, would be beneficial. In contrast, there is little in the way of response that is warranted by the good fortune of others (Rozin & Royzman 2001).

People's inherent sensitiveness to negative events indicates that negative emoticons will attract more attention and induce greater elaboration, thus leading to empathetic responses than positive emoticons. On the basis of the above discussion, we form the following hypothesis

*H<sub>2</sub>: The effect of emoticons on empathy is moderated by the valence of WOM message. Specifically, it is more salient for negative than positive messages.*

### **3.3 Effect of Empathy on WOM Persuasiveness**

We propose that recipients' empathy for the message communicator will enhance WOM persuasiveness via its positive impacts on communicator trustworthiness and message quality. Trustworthiness refers to the degree to which recipients perceive the communicator's assertions to be valid (Pornpitakpan 2004). It positively associates with perceived integrity and decency of the message source. Being a key dimension of source credibility, trustworthiness has a significant impact on persuasion. Researchers show that a trustworthy communicator leads to higher involvement in the message, greater attitude change, and more behavioral compliances (Andreoli & Worchel 1978; McGinnies & Ward 1980; Yoon et al. 1998). Message quality, on the other, refers to the persuasive strength of arguments embedded in a WOM message (Petty et al. 1981). The importance of argument quality to persuasion has been highlighted and extensively validated in persuasion research, which suggests that people are more inclined to accept a message containing stronger arguments, especially when they are highly involved in the persuasion (Bhattacharjee & Sanford 2006; Petty & Cacioppo 1984). In line with these studies, we regard perceived trustworthiness of the communicator and argument quality of the message as two determinants of WOM persuasiveness.

We propose that feeling empathy for the communicator will heighten perceived trustworthiness of the communicator and thus enhance the persuasiveness of WOM communication. Empathetic responses include sharing of feelings; recipients generate similar feelings as experienced by the communicator

(Hoffman 1977; Preston & Waal 2002). According to Byrne (1969), the detection of similarity in others confirms one's interpretation of the environment. Such a confirmation process elicits positive affect that becomes associated with the referent individual through conditioning, resulting in an environment conducive to trust development. This proposition has received empirically evidence showing that individuals tend to display high levels of trust in people they perceive to have attitudes and beliefs similar to their own (Doney & Cannon 1997; Li et al. 2013; Simons et al. 1970). In this research, we predict that similarity in affective feelings induced by empathy will also have a positive effect on perceived trustworthiness of the communicator. The increase in communicator trustworthiness, as discussed before, will lead to greater percussiveness of the WOM commutation. Thus, we hypothesize that:

*H3: Recipients' empathy for the WOM communicator has a positive effect on perceived trustworthiness of the communicator, which in consequence leads to an increase in WOM persuasiveness.*

Feeling empathy for the communicator will also enhance WOM persuasiveness by improving perceptions of message quality. As we discussed before, viewing facial expressions leads recipients to automatically mimic those expressions and generate similar feelings on their own (Dimberg 1990; Hess & Blairy 2001). A critical characteristic of such an automatic reaction process is that it can occur without attention or conscious awareness (Dimberg et al. 2000). That is, after exposure to a WOM message containing emoticons, recipients identify the affective state of the communicator and experience similar feelings. However, they are unaware that their emotional responses are caused by emoticons. In this circumstance, recipients tend to misattribute their responses to the WOM message (Schwarz & Clore 1983), resulting in a belief that the message itself induces the affective experience. Such a belief will lead recipients to develop favorable evaluation of the message's argument quality.

On the basis of this discussion, we hypothesize that:

*H4: Recipients' empathy for the WOM communicator has a positive effect on perceived quality of the message, which in consequence leads to an increase in WOM persuasiveness.*

We summarize the conceptual framework of this research in Figure 1.

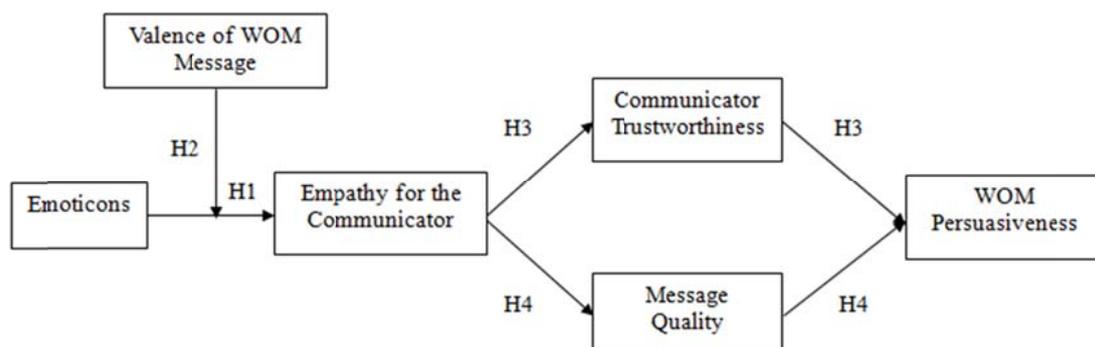


Figure 1. Conceptual Framework and Hypotheses

## 4 RESEARCH METHOD

### 4.1 Experimental Design and Stimuli

The experiment adopted a 2 (emoticons: with vs. without) × 2 (message valence: positive vs. negative) full-factorial between-subjects design, which produced four conditions.

Following previous studies (Park et al. 2007), we used Portable Multimedia Player (PMP) as the target product. Prior research has demonstrated that consumers rely more on WOM communication to make purchase decisions for experience products than for search products (Park et al. 2007). PMP is characterized by experiential qualities, and hence provides an appropriate context to test our hypotheses. In addition, PMP is commonly used among young consumers, so most participants of our experiment (university students) can readily comprehend the review contents.

For each condition, we created a graphical image that looked like a screenshot captured from an actual consumer review website. To control for any preexisting attitude toward the product, we blurred its brand and attribute specification using Adobe Photoshop filter-glass tools, leaving only consumer reviews visible.

## 4.2 Manipulation of Emoticons

Emoticons were manipulated as either present or absent in the reviews. For the with-emoticon condition, we selected the emoticons in three steps.

The first step was to identify the expressed emotions. The literature has documented a hierarchical model of consumer emotions that summarizes the frequently encountered positive and negative emotions evoked by products, brands, and other marketing stimuli. Specifically, the basic positive emotions include contentment, happiness, love, and pride, whereas the basic negative emotions include anger, fear, sadness, and shame (Laros & Steenkamp 2005). In this research, we selected contentment and happiness to represent the WOM communicator’s positive emotions, and sadness and anger to represent that person’s negative emotions. These four emotions are more frequently expressed in WOM communication and can be more easily conveyed via emoticons than others.

The second step was to select emoticons. We collected more than 200 emoticons from the mainstream instant messaging applications, popular social media websites, and online communities, and selected 12 most typical ones—six positive and six negative. A pretest was then conducted, in which we recruited 30 undergraduate students and provided them the 12 emoticons. For each emoticon, participants evaluated how likely they would use it to express each of the four emotions on a five-point scale (1= *very unlikely*, 5 = *very likely*). The results suggested that 😁, 😊, and 😄 received the highest ratings on contentment and happiness, whereas 😞, 😡, and 😠 received the highest ratings on sadness and anger. Thus, these six emoticons were selected as the stimuli of this experiment (see Table 1).

Emoticons	Contentment	Happiness	Sadness	Anger	
Positive	😁	4.18	4.40	1.11	1.11
	😊	3.17	3.94	1.06	1.11
	😄	3.11	3.50	1.06	1.06
Negative	😞	1.06	1.06	4.38	4.73
	😡	1.17	1.11	3.78	4.39
	😠	1.22	1.22	4.17	3.40

Table 1. *The Usage Likelihood of Selected Emoticons for the Six Designated Emotions*

The last step was to decide on the number and location of emoticons in the review. Research suggests that multiple duplicate emoticons can attract more attention and induce stronger perceptions of the expressed emotions than a single emoticon does (Boonthanom 2004). Specifically, Boonthanom (2004) used one emoticon, three duplicate emoticons, and five duplicate emoticons to manipulate the low, medium, and high levels of emotional cues, and showed that message recipients perceived a higher degree of emotion when the number of emotional cues increased. In this research, we chose to duplicate each emoticon three times in all “with emoticons” conditions to ensure that during the

experiment participants would attend to these emotional cues and perceive a moderate degree of emotions from them. Thus, each WOM message contained nine emoticons in total.

As for the location, previous research suggests that emoticons are normally used at the end of a sentence (Provine et al. 2007; Wang et al. 2014). Therefore, for each review three emoticons were placed at the end of different sentences (as shown in Figure 2).



Figure 2. Images of the “without emoticon” and “with emoticons” conditions (positive review)

### 4.3 Manipulation of WOM Messages

The message valence was manipulated by varying both the star rating and the textual content of product reviews. Specifically, a two-star rating (out of five stars) was used to indicate a negative review and a four-star rating for a positive review.

To ensure the relevance of the review texts, we first identified 16 PMP attributes that are most frequently mentioned in WOM communication based on a large number of real-world online product reviews. Thirty participants were then asked to rate the importance of each attribute for their purchasing decisions. We selected six most important attributes on the basis of their ratings (all higher than five points on a seven-point scale), and then prepared a positive review and a negative review commenting on these attributes. The reviews were further fine-tuned with a series of pretests until the positive and negative reviews were similar in length and comprehensibility ( $p > .05$ ).

### 4.4 Measures

All measures were borrowed from previous research and adapted to fit in the context of the present study. Specifically, empathy was measured with five items used by Escalas and Stern (2003). Communicator trustworthiness was measured with four items used by Smith (2005), whereas message quality with three items used by Park et al. (2007). We measured WOM persuasiveness using three items adapted from Gershoff et al. (2003). To reduce the common method bias, the measures of the dependent variables were separated by questions that were relevant but of little interest to this research (e.g., measures of the message’s readability). We listed all measurement items of the dependent variables in Appendix A.

In addition to the dependent variables, we also asked participants to recall whether the product review they read contained emoticons and to rate the valence of the review (1 = *very negative*, 7 = *very positive*), which was used for manipulation check.

### 4.5 Participants and Procedures

A total of 108 students were recruited through online and offline advertisements at the university where the pretests were conducted. They received monetary compensation for participation in the experiment (69 females,  $M_{age} = 22.31$ ).

The experiment was administered in a behavior lab during a 30-minute session for each participant. After reading and signing an “informed consent” form, participants were randomly assigned to one of the four conditions. All experiment instructions, stimuli, and questionnaires were presented through a self-administered online survey system. Participants were asked to imagine that they wanted to buy a PMP for themselves and they were searching for consumer reviews at koubei.com, a WOM website similar to yelp.com in the United States. They were told that on the next page there was a screenshot randomly captured from koubei.com. They needed to read the information on the screenshot carefully.

After reading the reviews, participants were asked to respond to the measures of the dependent variables, including empathy, communicator trustworthiness, message quality, and WOM persuasiveness. After completing all questions, participants were compensated, debriefed, and dismissed.

## 5 RESULTS

Before hypotheses testing, we first checked our manipulations of emoticons and message valence. Descriptive analyses on the recall data indicated that all participants in the with-emoticon condition saw the emoticons in the review, whereas participants in the without-emoticon condition did not. In addition, a 2 (emoticon: with vs. without)  $\times$  2 (message valence: positive vs. negative) ANOVA on valence rating suggested a main effect of review valence ( $F(1, 104) = 489.88, p < .001$ ). Participants exposed to the positive review rated the review as more favorable ( $M = 5.95$ ) than those exposed to the negative review ( $M = 1.96$ ). No significant effects were found for emoticon (both  $ps > .10$ ). Thus, our manipulation of review valence worked as expected. The reliability and construct validity were then examined. Cronbach’s alpha reliability coefficients of all dependent variables exceed the threshold value of 0.7 (as shown in Appendix A).

We performed a 2 (emoticon)  $\times$  2 (message valence) ANOVA on empathy to test  $H_1$  and  $H_2$ , which hypothesize a positive effect of emoticon on empathy and a moderating effect of message valence. Results suggested that emoticon and message valence had an interactive effect ( $F(1, 104) = 5.75, p = .019$ ). As shown in Figure 3, for the negative message participants generated a higher degree of empathy for the communicator when the message contained emoticons ( $M = 4.83$ ) than when they did not ( $M = 4.11, F(1, 104) = 5.68, p = .019$ ). However, this effect was not significant for the positive message ( $M_{with-emoticon} = 4.25, M_{without-emoticon} = 4.56, F(1, 104) = 1.02, p = .316$ ). No other significant effects were found (all  $ps > .10$ ). Thus,  $H_2$  was supported whereas  $H_1$  was not.

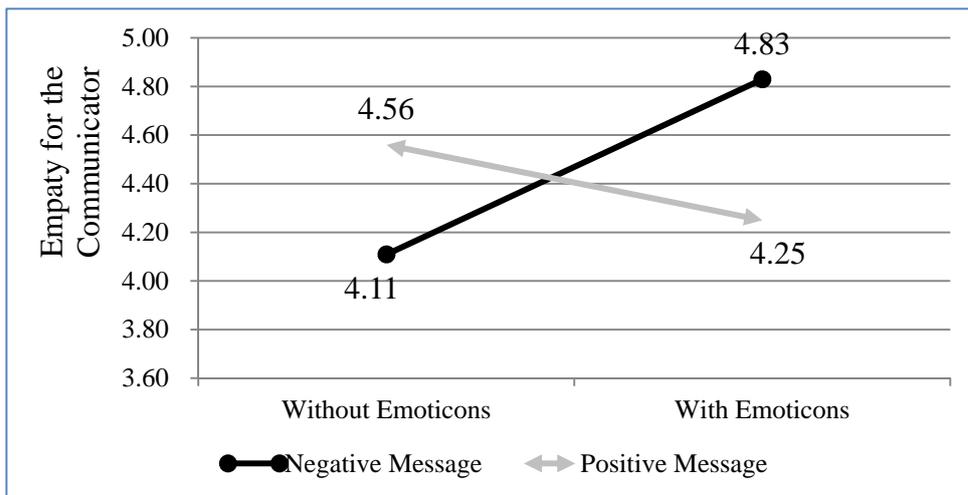


Figure 3. The Interactive Effect of Emoticon and Message Valence on Empathy

To test  $H_3$  and  $H_4$  that hypothesize the effect of empathy on WOM persuasiveness via communicator trustworthiness and message quality, we followed the procedure suggested by Hayes (2013) and used

the “PROCESS” procedure for SPSS that was developed by Hayes to test these mediating processes (see Figure 4). Results showed that empathy had a positive effect on communicator trustworthiness ( $\beta = .28, t = 4.41, p < .001$ ) and message quality ( $\beta = .37, t = 4.58, p < .001$ ), both of which led to enhanced WOM persuasiveness (for communicator trustworthiness,  $\beta = .66, t = 5.63, p < .001$ ; for message quality,  $\beta = .48, t = 5.04, p < .001$ ). Empathy had no direct effect on WOM persuasiveness ( $\beta = -.09, t = -1.28, p = .202$ ). In addition, the indirect (mediating) effect of communicator trustworthiness had a 95% confidence interval that excluded zero (LLCI = .087, ULCI = .322), and so did message quality (LLCI = .067, ULCI = .341). These findings suggested that communicator trustworthiness and message quality fully mediated the positive effect of empathy on WOM persuasiveness, thus supporting H<sub>3</sub> and H<sub>4</sub>.

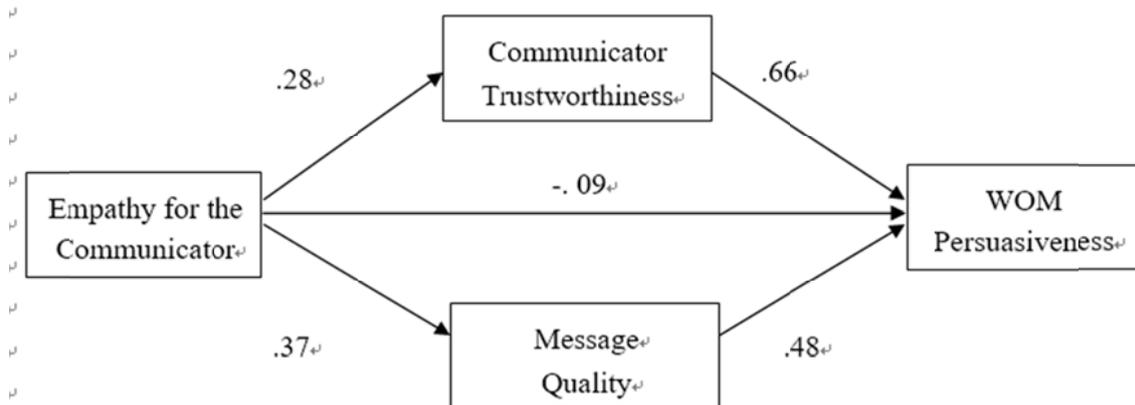


Figure 4. The Mediating Processes Underlying the Effect of Empathy on WOM Persuasiveness

## 6 DISCUSSIONS

In this research, we propose a conceptual framework exploring the effect of emoticons on online WOM persuasion. Our experiment suggests that emoticons enhance recipients’ empathy for the communicator. This effect is more salient when they communicate a negative than positive WOM message. In addition, the enhanced empathy heightens perceived trustworthiness of the communicator and perceived quality of the message, both of which lead to an increase in persuasiveness of the WOM communication.

### 6.1 Theoretical and Managerial Implications

This research contributes to the literatures on computer-mediated communication, online WOM persuasion, and empathy. The present research is the first to demonstrate the power of emoticons to enhance the persuasiveness of WOM communication. By showing the effect of emoticons on empathy as well as the effect of empathy on consumer perceptions of the communicator and the message, we identify the mechanisms underlying the persuasive effect of emoticons and confirm their importance as nonverbal cues to the social interactions in computer-mediated communication. In addition, we examine the moderating effect of message valence on the relationship between emoticons and empathy. Our findings help to reconcile the inconsistent views in the extant literature on emoticons and suggest a contingent perspective into the consequences of emoticons on WOM communication. Beyond the theoretical contributions, this research also provides novel implications for WOM communicators and platform designers. Our findings demonstrate the effectiveness of emoticons in WOM persuasion and its variations in different contexts. Thus, communicators should use emoticons cleverly to increase the persuasiveness of their WOM, whereas platform designers can benefit from our research by making better decisions on whether they should provide emoticons on their platforms.

## 6.2 Limitations and Directions for Future Research

Our research suggests directions for future research. First, as the first study to systematically examine the effect of emoticons in WOM communication, we focused on the positive and negative emotions expressed by emoticons and did not differentiate specific emotions, such as anger versus disappointment, and satisfaction versus excitement. Future research can examine how emoticons that express different positive or negative emotions affect WOM persuasion differently. Second, in this study we examined the moderating effect of message valence on the persuasive power of emoticons. More investigations are needed to explore other moderators, such as the expertise of the communicator and the intensity of emoticon usage. Lastly, computer-mediated communication includes numerous nonverbal cues to express emotions, such as vocal spelling (e.g., “weeeeell”) and lexical surrogates (e.g., “yuk yuk”), and emoticons are only one of them. It is worthwhile to explore whether other types of cues can also affect persuasion, and if yes, which type of cues are more effective and why.

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## Appendix A. Measurement Items

- Empathy (Cronbach's Alpha = .891)
  1. While reading the review, I experienced feeling as if the events were really happening to me.
  2. While reading the review, I felt as though I were the reviewer.
  3. While reading the review, I felt as though the events in the review were happening to me.
  4. While reading the review, I experienced many of the same feelings that the reviewer portrayed.

5. While reading the review, I felt as if the reviewer's feelings were my own.
  - Communicator Trustworthiness (Cronbach's Alpha = .829)
    1. I trust this reviewer to the extent that if I were unable to make this decision, I would allow him to choose an mp4 for me.
    2. My overall trust in this reviewer is (low .... high)
    3. My overall believability of the reviewer is (low ... high)
    4. My overall confidence in the reviewer is (low ... high)
  - Review Quality (Cronbach's Alpha = .861)
    1. This review has sufficient reasons supporting the opinions.
    2. This review is clear.
    3. In general, the quality of this review is high.
  - Message Persuasiveness (Cronbach's Alpha = .978)
    1. How likely do you think you would act in according with the reviewer's advice? (not at all....very likely)
    2. How probable do you think you would act in according with the reviewer's advice? (not at all....very probable)
    3. To what extent were you influenced by the review? (not influenced at all--- very influenced)