The Impact of Profile Picture Facial Expressions on Review Credibility

A thesis presented to

the faculty of

the Scripps College of Communication of Ohio University

In partial fulfillment

of the requirements for the degree

Master of Science

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April 2016

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This thesis titled
The Impact of Profile Picture Facial Expressions on Review Credibility

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Abstract

WANG, XINYING, M.S., April 2016, Journalism

The Impact of Profile Picture Facial Expressions on Review Credibility

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This study examines the relationship between perceived credibility of online product reviews and facial expressions, whether happy or angry, in reviewer profile pictures from the perspective of attribution theory. The first hypothesis proposed that consumers exposed to an angry-looking profile picture will be more likely to attribute a positive review to product performance rather than the reviewer’s perceived personality. The second hypothesis predicts that people rate a review with an angry-looking reviewer picture higher in credibility than one with a happy-looking picture. The hypotheses were tested by a between-group experiment with 138 participants recruited from Ohio University. The results suggested that there were no significant differences in either the attributions of positive reviews or credibility ratings between the participants who viewed happy-looking faces and those who viewed angry-looking faces. The findings imply that reviewer profile pictures displayed along product reviews on generic eWOM platforms might not be as influential as the reviews themselves on perceive credibility.
I dedicate this thesis to my parents who always respect me and support every decision I made, especially with my pursuit of higher education.
Acknowledgements

I’m greatly obliged to the faculty of the E.W. Scripps School of Journalism, where my passion for journalism is refreshed and reinforced. I would like to thank my advisor and committee chair Dr. Hans K. Meyer who spares no effort in instructing and motivating me in the path of journalism practice as well as academic research. His classes and research have deepened and rejuvenated my understanding of new technology used in media and the values of journalism towards society. Without him, I could not have finished this thesis on my own.

I am also grateful to my committee members, Dr. Jatin Srivastava and Professor Daniel Farkas, who are always there to assist as well as to bring in valuable advice and insights. My sincere thanks go to Dr. Carson Wagner who helped me reach out to experiment participants and inspired me with unique viewpoints and approaches to media research, Dr. Elizabeth M. Hendrickson, who has been a huge supporter and cheerleader for my professional endeavor in journalism, and Dr. Mike Sweeny, who is simply the best school advisor ever.

I owe my thanks to The Athens NEWS editor Terry Smith, who offered me an opportunity to obtain real-life experience as a budding a journalist.

Last but not least, I would like to thank my parents, who support my decision to pursue further study in the E.W. Scripps School of Journalism at first place. Also, I am thankful to every friend I made during my study here. They have been part of my Athens Ohio memory, which I will never forget.
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Chapter 1: Introduction

Word of Mouth (WOM), the information passed through face-to-face conversations, has proven to have a great influence on consumer decision-making (Katz & Lazarfeld, 1955). This long-lived feedback mechanism continues to play an important role in the new digitized environment. Information exchange about services and product reputation on the Internet is freer than it used to be, because the Internet changes the way people communicate by breaking through time and geographical limits. Whereas WOM communication usually happens in a face-to-face setting, electronic Word-of-Mouth (eWOM), as a form of computer-mediated communication (CMC), can be exchanged asynchronously at a distance. While WOM is a process within interpersonal networks, eWOM conversations take place beyond existing personal contacts. Thanks to the Internet, eWOM is believed to be more efficient than traditional WOM (Thorson & Rodgers, 2006). A simple search online can reveal user opinions and experience about any product or service in the market. On the other hand, eWOM can be much more misleading than WOM, and the abundance of eWOM information can leave a heavy burden on the audience to discern credible messages of real value.

The Internet also facilitates the development of virtual consumer communities like Yelp, Rotten Tomatoes, and TripAdvisor, where people can review products and services and exchange “specialized consumer knowledge” (De Valck, Van Bruggen, & Wierenga, 2009, p. 185). These review websites thereby “function as repositories for eWOM communication” (Lim & Van Der Heide, 2015, p.58). As such, eWOM is exchanged among strangers in virtual consumer communities (Lim & Van Der Heide,
Lacking prior knowledge about the communicators, receivers are faced with the great challenge of evaluating the truthfulness of the reviews. This is especially true with positive eWOM. Marketers have recognized the power of eWOM and have been seeping into the consumer community to promote products by disguising themselves as fellow consumers.

However, the online environment offers consumers other options to evaluate source credibility (Flanagin & Metzger, 2007; Lim & Van Der Heide, 2015). One of them is personal profiles. Every member on the review website has a profile page, which contains personal information. A review reader who is unsure about a review can avail themselves of a reviewer profile for additional clues. By doing so, consumers can assess information such as the identity, expertise, and trustworthiness of reviewers. Among various cues, the profile picture is usually one of the few visual cues that receivers are exposed to directly on an online review page, so it can be an important factor of perceived credibility of online sources and even messages. Nevertheless, research on the impact of visual communication on users has been limited in general (Kensicki, 2003). The influence of a user profile picture was excluded in many studies on eWOM credibility due to the large amount of implicit information in a single picture and the difficulty of stimulus control. For similar reasons, scarce research has been done on the relationship between perceived credibility and the profile image.

To fill this gap, this study intends to examine if the profile picture on review websites correlates with the perceived credibility of eWOM, specifically, if facial expressions, whether happy or angry, can cause different perceptions of the credibility of online reviews.
Chapter 2: Literature Review

The impact of eWOM has been established in academia (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004). By definition, the term eWOM is “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet” (Hennig-Thurau et al., 2004, p.39). A positive statement about a product is considered positive eWOM. The research on eWOM stems from topics like virtual marketing, traditional WOM, and online communities. Strauss (1997) is one of the earliest to discuss online customer reports about products and services. He considers such online articulations under the general concept of word-of-mouth communication.

From a marketing perspective, eWOM serves as a powerful tool for companies to gather feedback from customers, thus gaining a competitive edge over the market (Harrison-Walker, 2001). As an updated version of WOM, eWOM is found more effective, as people show greater interest in the product information from online consumer forums than traditional marketer-generated information (Bickart & Schindler, 2001). Researchers have long recognized the importance of online word-of-mouth in terms of building customer loyalty, competitive advantage, customer relationships, and market share, and marketers are getting increasingly aware of the possibility that eWOM impacts sales, reputations, and brands (Barnes & Jacobsen, 2014).

However, awareness alone is not enough in today’s world. As Barnes and Jacobsen have noted, entities in the U.S. including for-profit companies, top charities, and colleges and universities are not engaging in related online conversations, especially those that take place outside of their own social media tools. With a more “consumer-
centric” era, it is time for marketers to study eWOM more closely than ever, as organizations are no longer as in control as they used to be. They need to learn how to solve specific problems pertaining to negative online conversations as well as how to utilize and maximize positive eWOM in the online marketplace.

Another stream of eWOM research draws from literature on social behavior in virtual communities. As for the message sending side, research identifies several potential motives for customers who engage in eWOM communication by posting product reviews in virtual consumer communities (Hennig-Thurau et al, 2004). Among those motives, social benefits like a desire for social interaction and concerns for other consumers are the most dominant. On the receiving side, consumers who want to make quicker and smarter purchase decisions embrace eWOM. Therefore, eWOM has a substantial impact on consumer decision-making and purchase behavior (Hennig-Thurau & Walsh, 2003). Still, the studies discussed above address little about how audiences actually process and evaluate eWOM information (Cheung, Luo, Sia, & Chen, 2009), especially how credible consumers believe those online reviews are.

**Credibility**

Credibility lies at the heart of web-based information. The information on the Internet is prone to be inaccurate, biased, and misleading due to its relatively unchecked flow (Flanagin & Metzger, 2000). These potential problems are more detrimental to certain genres of information, especially news and word-of-mouth, which bear social benefits by informing others of the truth. Yet, such communication hinges upon the audience’s perception. Reeves and Nass (1998) argue that what seems to be true is more
important than what is true. In this sense, online credibility, which is the receiver’s overall perception rather than objective properties, is a concept of vital importance.

In terms of eWOM, perceived credibility has always been a major concern (Cheung et al., 2009; Dellarocas, 2003; Lee & Youn, 2009; Lim & Van Der Heide, 2015), and research has examined various determinants and nuances contributing to the perceived credibility in eWOM environments (Flanagin & Metzger, 2007; Jin & Phua, 2014; Lim & Van Der Heide, 2015). Credibility can influence a receiver’s attitude toward the information and the product reviewed (Hovland, Janis, & Kelly, 1953). In the context of eWOM communication, an online statement of higher credibility has greater persuasive power to potential consumers. Generally speaking, eWOM can be less reliable than traditional WOM, because eWOM is subject to “the blending of advertising and information” as well as “a lack of established reputation” (Flanagin & Metzger, 2007, p. 320). In practical scenarios, marketers have been manipulating eWOM as a promotional tool. eWOM platforms are nowadays filled with fake positive reviews uploaded or paid by marketers (Mayzlin, Dover, & Chevalier, 2012). They can do that with ease because most reviewers are anonymous to consumers, and anyone can post a product review on review websites.

The absence of prior knowledge about the source poses extra difficulty for receivers to assess the credibility of eWOM. Lacking prior interaction, consumers on review websites cannot acquire the information about the reviewer’s reputation (Luhn, 2009; Mayzlin et al., 2012). The interpersonal ties in eWOM are not as strong as those in traditional WOM (Lee & Youn, 2009; Schindler & Bickart, 2005). Further, a text-based CMC setting, like review websites, deprives consumers of contextual cues such as facial
expressions and tones to facilitate the interpretation of personal opinions. While traditional WOM evaluation only requires a consumer to make an inference about a reviewed product based on the review message and prior impression of the reviewer, a receiver in eWOM communication has to make inferences about the reviewed product as well as the reviewer who normally is a stranger (Lim & Van Der Heide, 2015). The credibility assessment of eWOM thereby depends upon both source and message.

Source credibility refers to “a communicator’s positive characteristics that affect the receiver’s acceptance of a message” (Ohanian, 1990, p. 41), and it is a multidimensional concept, which can be measured primarily by expertise, trustworthiness, and other secondary factors (Hovland et al., 1953; McCroskey & Young, 1981). Source credibility can be crucial, because who the source is can mean more than what the source says (Sundar, 1999).

The perception of source is moderated by social presence in media. For example, Reeves and Nass (1998) find people rate TV news more credible than print news because of the presence of a reporter. Social presence, through words or images, contributes to greater perceived credibility, because social presence enables the receivers to connect and interact with the source (Reeves & Nass, 1998). Such social and natural responses to media may also be found in online environments. Research suggests audiences in the digital age prefer stories of great interaction and involvement (Meyer, Marchionni, & Thorson, 2010). Similarly, Flanagin and Metzger (2007) find websites that allow people to connect are perceived to be more credible. Social presence can be an important element for audience perception, so it is necessary to look at the online social cues that connect receivers with senders.
eWOM platforms such as Yelp are embedded with social networking features so that consumers can build their community networks virtually. They can “friend” other members and receive updates from friends about product reviews and ratings. Among other things, they can use their profiles to present themselves like they do on other social networking websites. The user profile usually contains personal information including a nickname, profile picture, friends, and a brief personal introduction. A reviewer profile can serve as an important reference for credibility evaluation.

Research suggests that the user profile in virtual communities functions as a set of cues for the source credibility evaluation of the profile owner. Although specific elements vary across websites, some elements, such as the profile picture, number of friends, and gender, remain the same. Among them, the profile picture is believed to be the most important factor, as we are living in a visually-dominated culture, and people have been analyzing all kinds of images unconsciously (Pepper, Brizee, & Angeli, 2010). Pictures can directly evoke emotion and convey profound meanings, including a sense of credibility (Graber, 1988), so they are crucial for information recipients to perceive, evaluate, and form opinions and attitudes about the reviewers. It is entirely possible that consumers on review websites take visual cues like a profile picture along with textual reviews into credibility evaluation. As a preliminary exploration of visual credibility, this study will test profile pictures against the influence of review credibility.

Nevertheless, research on credibility has mainly relied on text-based information, ignoring visual cues in the online environment. For example, Lim and Van Der Heide (2015) did a comprehensive experiment on how people perceive reviews on Yelp. They manipulated various factors, including review valence, the reviewer profile, and the
receiver’s familiarity with the platform. While their study examines nearly every factor on a typical review-reading page, it does not involve any visual cues on the webpage.

As a matter of fact, most credibility research on visual communication is about issues such as attire, race, and nonverbal communication (e.g. body movement) (Farr, 2007), which does not clarify “how visual components of messages influence source credibility within a mediated context” (Kensicki, 2003, p. 142). These visual influences are crucial to credibility perception in eWOM environments in that many review websites feature highly interactive design and graphics.

Some research does study visual credibility on the Internet from the perspective of virtual representations. Nowak and Rauh (2006) discuss the perceived credibility of avatars, which are human-like representations in virtual communities. They compared the perceived source credibility that resulted from varied avatars of different degrees of realism and anthropomorphism (the degree of lifeliness to humans). Their findings report that the degree of realism and anthropomorphism is positively related to perceived credibility for both dynamic and static avatars. Further, realism directly affects the trustworthiness of avatars in CMC. In other words, user representations with more human characteristics are believed to have greater social potential as well as credibility than other types, such as animals, objects, and scenes (Nowak, Hamilton, & Hammond, 2009). The findings suggest that profile pictures of real-people images may have higher source credibility ratings than any other category, even though eWOM platforms allow members to use all kinds of photos as profile pictures. This study plans to examine perceived credibility of real-people photos starting from one of the visual elements: facial expressions.
While visual elements of the source have an impact on source credibility, they can also influence message credibility on the Internet. Credibility judgment, as a perceptual variable, is under the influence of the source or the information itself (Flanagin & Metzger, 2007). Despite the importance of source credibility, message credibility is the direct link with the final decision. Message credibility is not only associated with aspects of the message itself, such as information quality, accuracy, currency, and language intensity (Metzger, Flanagin, Eyal, Lemus, & Mccann, 2003), but also several external factors.

Factor-analytic research on message credibility has been extended to new technologies, including various eWOM scenarios. Using an experiment, Cheung, Luo, Sia, and Chen (2009) investigated the review credibility on Chinese consumer forums by examining several information-based factors such as argument strength and source credibility, as well as normatively based factors like recommendation consistency and recommendation rating. The results suggest that argument strength, source credibility, and confirmation of prior belief have positive correlations with the perceived credibility of eWOM. Recommendation consistency and ratings have a moderately positive influence on eWOM credibility. The study provides insights regarding the possible factors of perceived eWOM credibility. With several variables influencing perceived credibility, source credibility and argument strength are suggested as the most significant factors above all. As source credibility can be shaped by visual clues on webpages, the reviewer profile picture may be an important element that consumers take into the perception of message credibility.
**Emotion Expressed in eWOM**

Further, research has been paying attention to implicit information within eWOM messages including emotion. It is common for reviewers to convey emotions in online reviews (Hennig-Thurau et al., 2004). Subjective emotions expressed by the source can have a considerable influence on reader judgment (Schindler & Bickart, 2012). Yin, Bond, and Zhang (2015) inquired into how the level of expressed emotion in a review affects its perceived helpfulness, based on user reviews in the “App Store,” a virtual market of mobile applications created by Apple Inc. The helpfulness index in the study is calculated by the number of “helpful” votes a product review gets from other App Store users. Helpfulness votes are designed to help fellow consumers sift through a large amount of information and locate quality content, so the index is a useful measurement for message argument strength, which is a determinant of message credibility. The study discovered an inverted U-shaped relationship between emotional arousal expressed in app reviews and the perceived review helpfulness. In other words, increased emotion arousal in a review is helpful at low levels but detrimental at high levels. The study demonstrates the communicator’s emotions can be influential on the audience’s perception of message quality, a dimension of message credibility as discussed. While emotions between the lines in product reviews have an effect on credibility ratings, emotions displayed through facial expressions in profile pictures may also impact eWOM credibility.

Although different models have been proposed to classify dimensions of emotion (Brosch, Pourtois, & Sander, 2010), most researchers have agreed on the importance of two of the dimensions: emotion valence and arousal (Niedentall, 2008). Valence measures the extent to which one perceives an experience as pleasant or unpleasant or
“positive” or “negative.” Arousal (or activation) refers to the extent to which one’s emotion is aroused or activated by an experience. Scales like “calming” to “exciting” and “soothing” to “agitating” are used to describe emotional arousal. As a preliminary research targeting emotion expressed in an environment, this study only considers the valence dimension and regards the emotions as distinct. Emotions are generally manifest in three components—an “emotional reaction triad” of experience, physiology, and expression (Ekman 1993). With regards to visual elements online, this study focuses on facial expressions in reviewer profile pictures.

**Factor of Credibility to Test: Facial Expressions**

In visual portraits, facial expressions are the primary cues leading to different audience perceptions of portrait owners. Past research indicates that people tend to use facial expressions as major references to emotion, even personality traits, even though a great amount of other information may exists. To illustrate, Knutson (1996) conducted an experiment among people who were not acquainted: Participants with happy faces were identified high in affiliation, while those with angry faces were rated low in affiliation.

Research on human emotions have identified several “universal” emotional facial expressions: happiness, anger, fear, sadness, surprise, and disgust (Ekman, 1999). Among them, the most relevant to personality traits of a reviewer are happiness and anger, because this pair can be used to create a match or mismatch situation with positive or negative reviews (Lee, Kim, & Peng, 2013). Lee and his colleagues (2013) find that participants are able to infer certain personality traits of a reviewer from expressions of happiness and anger in the avatars that represent the reviewers. Particularly, a happy-looking avatar is rated high in agreeableness, whereas an angry-looking avatar is reported
low in agreeableness. Moreover, the results show that perceived personality traits suggested by facial expressions of avatars influence the way consumers evaluate and attribute positive eWOM. When reviews are positive, messages presented with angry-looking avatars are reported more credible than those with happy-looking avatars. Such results are predicted by the discounting principle of attribution theory.

**Attribution Theory**

Researchers frequently refer to attribution theory when studying the influence of WOM (Laczniak, DeCarlo, & Ramaswami, 2001; Lee & Youn, 2009; Lim & Van Der Heide, 2015). Attribution theory describes how people make different causal references about an action (Kelley, 1973; Laczniak et al., 2001; Mizerski, 1982). According to attribution theory, audiences attribute product reviews to more than one cause. Typically, researchers have proposed three causes for product review attribution: “product-related causes (e.g. product’s performance), communicator-related causes (e.g. reviewer’s personality traits), or situation-related causes (e.g. circumstances)” (Lee, Kim, & Peng, 2013, p.118). For instance if one reads a positive review about a restaurant on Yelp, he or she could be convinced that the restaurant is as good as the review depicts and he or she could think that the reviewer personally is in favor of the restaurant, or he or she could believe the reviewer just had good luck when dining in the restaurant on that single day. Varying ways of attribution lead to different outcomes on persuasion and purchase decisions (Laczniak et al., 2001). The more one ascribes a communicator’s product review to the product’s actual performance, the more accurate one believes the review is and the more likely that communicator will be rated credible. The more credible one believes the reviewer is, the more likely one will be persuaded into purchasing that item.
(Cheung et al., 2009; Mizerski, 1982). When it comes to eWOM, attribution theory considers a situation where a consumer attributes a product review toward causes other than product performance, and a resulting attitude change in credibility judgment.

While attribution theory postulates the possibilities of different attribution schemes, the covariation model is a subtype of attribution theory, which describes how people attribute causes to a given phenomenon. The model is based on three types of information: consensus, distinctiveness, and consistency (Kelley, 1973). Consensus considers whether other reviewers respond to a specific product in a similar way; distinctiveness refers to whether the reviewer responds similarly to other products in the same category; consistency concerns whether the reviewer responds similarly to a certain product across time and situations (Lim & Van Der Heide, 2015). In the context of eWOM credibility, some researchers believe that “there is uncertainty of consensus, distinctiveness, and consistence,” because receivers do not have previous interpersonal knowledge about the reviewers. As a result, “receivers may attribute the response to all three—the person, the restaurant, and the circumstance—rather than considering it to be caused by one” (Lim & Van Der Heide, 2015, p.72). This argument may appear plausible at a glance, however, the user profile is revealing concerning a reviewer’s rating pattern. Receivers might still be able to infer distinctiveness information (if the reviewer responds to other target products similarly) based on the perceived personality traits despite the lack of previous contact.

While the covariation model of attribution theory puts the presence of other potential causes of positive reviews above actual product performance, the discounting principle investigates whether and how the suspected cause plays a role in the attribution
process (DiVitto & McArthur, 1978). The discounting principle of attribution theory hypothesizes that “the role of a given cause in producing a given effect is discounted if other plausible causes are also present” (Kelley, 1973, p. 113). When the product review is positive, receivers may develop doubts about the accuracy of the reviews and ascribe the positiveness to the reviewer’s positive personality traits, like someone always says nice things about other people or products. The product’s actual performance as a cause for the positive review is discounted, and thereby the persuasiveness of the product review decreases (Laczniak et al., 2001). On the contrary, when consumers suppose that a reviewer tends to find fault with people or products, they might believe that it is the actual performance of the product that prompts the reviewer to make sincere compliments against their critical personalities. The distinctiveness information therefore heightens the product-related cause and increases the persuasiveness (Lee et al., 2013). The question at this point is whether consumers are able to process that distinctiveness information on webpages.

In fact, receivers can infer the behavioral pattern from perceived personality traits based on a set of cues on the webpage. The visual cue, however, is often missed in experiments (e.g. Cheung et al., 2009; Lim & Van Der Heide, 2015). Limited research has been done regarding whether the visual cues of reviewers act as a sufficient cause that affects the attribution process. Specifically, does the profile picture indicating certain personality traits of a reviewer, influence the perceived credibility of a review contributed by the profile owner? To this end, the discounting principle of attribution theory will serve as the theoretical foundation in this study.
Based on the discounting principle of attribution theory, Lee and colleagues (2013) find positive reviews are perceived more credible when the reviewers appear bad-tempered and picky than reviewers who seem agreeable and nice. When reviewers with negative personality traits write positive reviews, the reviews are rated as more credible than the positive reviews written by those with positive personality traits. The result is consistent with the discounting principle of attribution theory. When other sufficient causes are present, the product-related cause is discounted. As there is a possibility that a reviewer speaks of the product highly just because he or she is always happy with other people or products, it is likely that the reviewer overrates the product. As Lee et al. (2013)’s study yields satisfactory results with highly human-like avatars, it is entirely possible that facial expressions in real-people profile pictures carry the same weight as those of avatars. Assuming the same effect applies to profile pictures of real people, the first set of hypotheses on review attribution are raised:

**H1a:** When the consumer review is positive, consumers exposed to an angry-looking profile picture will be more likely to attribute the review to product performance than those who are exposed to happy-looking profile pictures.

**H1b:** When the consumer review is positive, consumers exposed to a happy-looking profile picture will be more likely to attribute the review to the reviewer’s agreeableness than those who are exposed to angry-looking profile pictures.

As the attribution theory predicts, the more people attribute review positivity to the product’s actual performance, the more credibility people would perceive in product reviews. That is to say, if negative facial expressions in reviewer profile pictures cause people to give more weight to product-related causes when reading positive reviews,
people would perceive those positive reviews to be more credible. The discussion can be translated into the following hypothesis:

**H2:** A positive review will be rated lower in perceived credibility with a happy-looking reviewer picture than a positive review with an angry-looking reviewer picture.

While this study endeavors to explore if facial expressions in reviewer profile pictures have an effect on the review credibility, the research only considers the situation of positive reviews because of the confounding effect of review valence. Prior research contends that negative WOM generally has a greater impact than positive WOM for persuasion strength (Bone, 1995; Herr, Kardes, & Kim, 1991). As this study concerns a mediating effect of the source on message credibility of eWOM, properties of messages should be controlled. Likewise, some studies report divergent results in a positive review situation vs. a negative situation (Lee et al., 2013; Lee & Youn, 2009).

In this study, positive reviews are selected for several reasons. Compared to negative reviews, positive ones are less diagnostic (Laczniak et al., 2001), so they are more likely to be misleading to audiences. Positive reviews also generate more sales, because they can directly provoke the intent to purchase. Besides, as marketers are trying to keep a tight rein on online product reviews, a large portion of positive reviews are essentially promotional. Aware of the trend, consumers are more likely to suspect both review credibility and source credibility when negative information is absent (Schindler & Bickart, 2005). For that reason, focusing on positive eWOM, this study aims to explore the relationship between facial expressions in reviewer profile pictures and the perceived credibility of reviews.
Chapter 3: Methods

Study Design

The study is conducted through an anonymous online experiment using Qualtrics, an online experiment software. To test the research hypotheses, two versions of the experiment were developed to compare how credible people believe the review messages are in two scenarios: happy-looking reviewer profile pictures and angry-looking reviewer profile pictures. Participants were randomly directed to one of the versions of the experiment. Both groups were presented with the same online product reviews and the profile pictures of the same reviewers (one male and one female). All the other webpage elements were the same; the only difference was the facial expressions of the supposed reviewers posted in the left-side profiles. One group of people viewed two happy-looking reviewer pictures, while the other group viewed two angry-looking reviewer pictures.

The layout of the review page (see Appendix 1) had the same structure as a general review website without specific identifiable elements. This serves to downplay the influence of sponsors or platforms (Lim & Van Der Heide, 2015). Each review page had a reviewer profile picture (happy-looking face or angry-looking face) on the left, a five-star rating on the top, and a product review on the right. The five-star rating indicates the positivity of the reviews. The profile pictures were modeled by campus volunteers who were instructed to pose with angry or happy faces by the investigator. They agreed that they expressed genuine happy or angry feelings during the shoot and approved the pictures taken. The review texts were adapted from real reviews from AmazonPantry.com. The review messages are tweaked slightly so that both pieces have almost the same length and include subjective information — how the reviewer liked the
product — as well as objective information — how the products outperform competitors. The products reviewed are “F brand peanut butter” and “B brand paper towels.” Those products were picked to avoid the influence of interest in a certain type of product. For example, the male group could be more interested in electronics than the female group. After reading the fabricated online reviews with either happy-looking or angry-looking pictures, participants were asked to answer questions on two aspects: Which factor (reviewer’s personality or the actual product performance) contributes more to the positive product reviews and how credible they think the reviews are (see Appendix 2). Demographic questions such as gender, age, education level, and online shopping habits were also posed at the end of the experiment. These demographic questions were used by the investigator to explore the interaction between demographic characteristics and the credibility ratings.

Sample

A total of 142 undergraduate students were recruited from the JOUR2500 strategic communication class in the E.W. Scripps School of Journalism at Ohio University. The experiment information was announced and circulated by the instructor and teaching assistants in class. The participants who took part in the online experiment received three extra credit points toward the final score of that class. Interested students were instructed to sign up for the experiment by email. 142 students altogether signed up for this study, and 138 participated in the experiment, with 55 taking the pilot study and 83 taking the main experiment. They were randomly assigned to either group based on the time they signed up. The average age of participants is relatively young ($M = 19.22$, $SD = 1.14$). Most respondents were in their sophomore or junior year in college. Among
them, 118 were women, accounting for 85.5%. The majority of participants were white, accounting for 85.5% the sample, while 5.1% were African American, 5.1% were Asians, Hispanic were 1.4%, and other races were 2.9%.

Table 1

*Gender, education level, and race of all participants.*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20</td>
<td>14.5</td>
</tr>
<tr>
<td>Female</td>
<td>118</td>
<td>85.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Sophomore</td>
<td>56</td>
<td>40.5</td>
</tr>
<tr>
<td>Junior</td>
<td>60</td>
<td>43.5</td>
</tr>
<tr>
<td>Senior</td>
<td>15</td>
<td>10.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>118</td>
<td>85.5</td>
</tr>
<tr>
<td>African American</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Asian</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Total 138 100
**Causal attributions.** Participants were asked to indicate causal attributions toward either reviewer’s dispositional characteristics or product performance based on the question “the reviewer wrote the review in this manner, because…” They had five choices for this question. The two choices toward the reviewer’s agreeableness are “because the reviewer does not tend to find fault with others or companies,” and “because the reviewer is always positive” (Lee et al., 2013, p. 122). On the other hand, choices toward product performance were statements that the reviewer wrote the review in this manner “because this product is excellent,” and “because this company’s product provides the good features that most people want to have.” The choices of reviewer personality are coded as 1, while the ones toward product performance are coded as 2. The remaining choice was labeled as “other” and open for participants’ interpretations. This open choice was helpful in explaining the nuances of recipients’ perceptions of the reviews.

**Review credibility.** Drawing upon previous research on credibility, the overall message credibility was examined with four dimensions, which consider the perceptions of believability, accuracy, trustworthiness, and bias of the product review (Flanagin & Metzger, 2007). These categories are measured on seven-point scales, with 1 indicating the least believability, accuracy and trustworthiness, and 7 indicating the most on these three categories. The bias score is reverse-coded so that higher scores indicate less bias and greater credibility on the seven-point scale. The final message credibility score is dependent on the mean value of the four categories and was calculated to compare the overall credibility ratings between the two scenarios.
Data Analysis

In order to compare the influence of happy/angry facial expressions on credibility ratings, the means of all four dimensions were computed and compared in a between subjects analysis of those who received happy profile pictures and those who received angry profile pictures. Overall credibility was then calculated as the mean value of the four scores. Each mean score was calculated and compared to analyze the attribution and every single credibility dimensions between the two facial expression scenarios. To examine the influence of facial expressions, attributions toward review positivity are analyzed with the chi-square test, which was used to see if the attributions were skewed to either product performance or reviewer personality. Credibility scores are analyzed with the independent samples t-test in SPSS statistical software.

Pilot Study

Before the main experiment, a pilot experiment was conducted and distributed via Qualtrics to 56 participants (in two groups) to check experimental stimuli. The purpose of the pilot study is two-fold. Firstly, the pilot study examined if the race of the reviewers in the pictures could influence the perceived credibility of the reviews. As for source credibility, scholars found that “source characteristics can enhance or detract from the potential of a message to achieve attitude or belief changes” (Wilson & Sherrell, 1993, p. 101), which suggests a possibility that characteristics like race and gender could impact credibility judgments. In order to check the role that racial factors play in perceived credibility, the pilot study compared the credibility ratings between white and minority reviewers, while controlling all other webpage elements such as gender, review messages, and reviewed products.
The second purpose of the pilot experiment is to check if the participants could identify the supposed emotions, happy or angry, displayed by models in reviewer profile pictures. The pilot study asked participants to identify what emotions the profile pictures communicate—happy, neutral, or angry—after making judgments on credibility. This step also prepared for the main study in order to ensure that the profile pictures are either happy-looking or angry-looking in the eyes of observers.

**Stimuli Check**

The variable being manipulated was the facial expression in reviewer profile pictures. Empirically speaking, portraits of full faces are the dominant type of profile pictures on all kinds of social networking sites. Full-head shots with identifiable facial traits can better communicate the personality traits of profile owners than full-body shots, so this study uses full-head shots as stimuli. The model for the photographs was directed to pose with a happy expression — signaled by a smiling or up-turned mouth — and an angry expression — with lowered midline eyebrows (Ekman, 1999). Other than facial expressions, elements in a pair of pictures in two versions remained the same to exclude other factors affecting how a person is perceived. Specific technical influences such as camera angle, focus, lighting, brightness, contrast, and background are controlled throughout the process (cited in Lobinger & Brantner, 2015).
Chapter 4: Results

Pilot Study Results

After comparing the results between profile pictures of white reviewers and the minority reviewers, the investigator found no statistically significant difference for perceived credibility on any of the credibility dimensions. The independent samples t-test for the male group shows no difference on all credibility dimensions: believability $t(54) = .16, p = .875$, accuracy $t(54) = .10, p = .920$, trustworthiness $t(54) = .33, p = .745$, and bias $t(54) = .73, p = .470$. No significant difference was found in the female group as for believability $t(54) = -.49, p = .624$, accuracy $t(54) = -.438, p = .663$, trustworthiness $t(54) = -.42, p = .674$, and bias $t(54) = -.69, p = .493$ (Table 2). The overall credibility score for male white reviewer was 3.94 ($SD= 0.40$), compared to 3.79 for male minority reviewers ($SD = 0.53$), 4.35 for female white reviewers ($SD=0.28$), and 4.55 for female minority reviewers ($SD = 0.31$) (Table 3). This result is consistent with a previous study that race is not a significant factor for credibility perception (Farr, 2007).
Table 2

*Pilot Study: Independent t-test for credibility ratings between white reviewers and minority reviewers.*

<table>
<thead>
<tr>
<th>White vs. Minority</th>
<th>t</th>
<th>p (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>.161</td>
<td>.872</td>
</tr>
<tr>
<td>Accuracy</td>
<td>.101</td>
<td>.920</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>.327</td>
<td>.745</td>
</tr>
<tr>
<td>Bias</td>
<td>.727</td>
<td>.470</td>
</tr>
<tr>
<td><strong>Female Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>-.492</td>
<td>.624</td>
</tr>
<tr>
<td>Accuracy</td>
<td>-.438</td>
<td>.663</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>-.424</td>
<td>.674</td>
</tr>
<tr>
<td>Bias</td>
<td>-.691</td>
<td>.493</td>
</tr>
</tbody>
</table>

*Equal variances assumed.*

Table 3

*Pilot Study: Mean values of overall credibility ratings of different reviewers.*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>3.94</td>
<td>0.40</td>
</tr>
<tr>
<td>Minority</td>
<td>3.79</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>4.35</td>
<td>0.28</td>
</tr>
<tr>
<td>Minority</td>
<td>4.55</td>
<td>0.31</td>
</tr>
</tbody>
</table>
The second purpose of the pilot experiment was to make sure the reviewer profile pictures in the study communicate certain emotions with responders. The results show that 100% of participants agree that all profile pictures that are posed as happy actually look happy. However, there was a discrepancy with angry-looking expressions. Only 19% ($N = 28$) participants identified the female minority reviewer as angry. For the other female reviewer who was white, 60.7% participants reported her facial expression was angry. As for the white male reviewer, 65.3% participants perceived his facial expressions as angry-looking. Based on the results, profile pictures of a white man and a white woman were believed to be identifiable and used in the main study.

**Main Study Results**

86 students signed up for the main study. They were equally and randomly assigned to two groups: the happy-looking face scenario and the angry-face looking scenario. As 3 students hadn’t taken the experiment before the experiment deadline, a total of 83 students validly took part in the study with 41 in the happy-looking condition and 42 in the angry-looking condition. The average age of the participants was 19.91 ($SD = .40$). The majority (79.7%) of respondents were women, and 85.5% are white.

H1a and H1b suppose the facial expressions in the reviewer profile pictures could shape the way people attribute positive product reviews. H1a anticipates consumers who are exposed to the reviewer’s angry-looking profile picture will be more likely to attribute the reviews to product performance than those exposed to happy-looking reviewer profile pictures. H1b predicts consumers exposed to the reviewer’s happy-looking profile picture will be more likely to attribute the reviews to the reviewer’s agreeableness than those exposed to the reviewer’s angry-looking profile pictures. In the
main experiment, both groups of respondents were asked to attribute the positive review from a man and a woman to either reviewer personality or product performance. After performing a chi-square test, little difference was found in the way people attribute positive reviews in both pieces of reviews by male reviewers ($\chi^2 = .11, p = .945$) and female reviewers ($\chi^2 = 2.78, p = .25$).

Table 4

*Main Study: Breakdown of participants’ attributions of positive product reviews.*

<table>
<thead>
<tr>
<th>Reviewer Personality</th>
<th>Product Performance</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>17</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Angry</td>
<td>16</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Female</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>10</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>Angry</td>
<td>6</td>
<td>35</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition, independent samples t-tests were conducted to see if different groups of participants have varying opinions on how much exaggeration reviewers expressed in the reviews. The least exaggerated review is coded as 1, and the most is coded as 7. The results show no difference in the degree of exaggeration that readers perceive in either the piece by a male reviewer, $t(81) = 2.68, p = .079$ nor the piece by a female reviewer $t(81) = -.948, p = .345$. 

26
Table 5

Main Study: Mean and standard deviation of the degree of exaggeration in reviews between happy-looking reviewer pictures and angry-looking pictures.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>5.41</td>
<td>1.32</td>
<td>41</td>
</tr>
<tr>
<td>Angry</td>
<td>5.33</td>
<td>1.44</td>
<td>42</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>4.05</td>
<td>1.67</td>
<td>41</td>
</tr>
<tr>
<td>Angry</td>
<td>4.38</td>
<td>1.53</td>
<td>42</td>
</tr>
</tbody>
</table>

The results above do not support the hypotheses that people attribute positive reviews differently based on the facial expressions in the reviewer profile pictures.

H2 predicts that a positive review will be rated lower in perceived credibility with a happy-looking reviewer picture on the side than the piece with an angry-looking reviewer picture. To test this hypothesis, independent samples t-tests were performed to analyze each dimension of the credibility ratings: believability, accuracy, trustworthy, and bias. The overall perceived credibility score was calculated as the mean of the ratings on four dimensions (Flanagin & Metzger, 2007).

Mean and standard deviation of each credibility rating were compared between the two scenarios (Table 6). The results suggest little difference in the perceived credibility ratings between the happy-looking reviewer picture and the angry-looking reviewer group. For the male reviewer, no difference was seen in any of the dimensions: believability $t(80) = .70, p = .485$, accuracy $t(77) = 1.04, p = .300$, trustworthiness $t(77)$
The results are similar for the female reviewer; no difference was found in credibility ratings: believability $t(79) = 1.34, p = .172$, accuracy $t(80) = 1.67, p = .099$, trustworthiness $t(78) = 1.32, p = .099$, and bias $t(78) = .12, p = .901$. It seems that on all credibility dimensions, no statistically significant differences were seen in the ratings (Table 7). Therefore, H2, which states that credibility ratings could be higher for reviews with angry-looking reviewers, is not supported.

Table 6

Main Study: Mean and standard deviation of credibility ratings between happy- looking reviewer profile pictures and angry-looking reviewer profile pictures.

<table>
<thead>
<tr>
<th></th>
<th>Happy-Looking</th>
<th></th>
<th></th>
<th>Angry-Looking</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Male Reviewer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>4.32</td>
<td>1.54</td>
<td>41</td>
<td>4.10</td>
<td>1.56</td>
<td>41</td>
</tr>
<tr>
<td>Accuracy</td>
<td>4.33</td>
<td>1.07</td>
<td>40</td>
<td>4.05</td>
<td>1.26</td>
<td>39</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>4.15</td>
<td>1.19</td>
<td>40</td>
<td>4.13</td>
<td>1.17</td>
<td>39</td>
</tr>
<tr>
<td>Bias</td>
<td>2.63</td>
<td>1.64</td>
<td>40</td>
<td>2.72</td>
<td>1.59</td>
<td>39</td>
</tr>
<tr>
<td>Female Reviewer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>4.88</td>
<td>1.53</td>
<td>40</td>
<td>4.41</td>
<td>1.47</td>
<td>41</td>
</tr>
<tr>
<td>Accuracy</td>
<td>4.76</td>
<td>1.22</td>
<td>41</td>
<td>4.29</td>
<td>1.30</td>
<td>41</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>4.73</td>
<td>1.40</td>
<td>40</td>
<td>4.33</td>
<td>1.31</td>
<td>40</td>
</tr>
<tr>
<td>Bias</td>
<td>3.88</td>
<td>1.80</td>
<td>40</td>
<td>3.83</td>
<td>1.80</td>
<td>40</td>
</tr>
</tbody>
</table>
Table 7

*Main Study: Compare the Credibility Ratings of reviews with happy-looking reviewers vs. angry-looking reviewers.*

<table>
<thead>
<tr>
<th>Happy vs. Angry</th>
<th>$t$</th>
<th>$P$ (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>.70</td>
<td>.485</td>
</tr>
<tr>
<td>Accuracy</td>
<td>.104</td>
<td>.300</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>.08</td>
<td>.935</td>
</tr>
<tr>
<td>Bias</td>
<td>-.26</td>
<td>.799</td>
</tr>
<tr>
<td><strong>Female Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believability</td>
<td>1.34</td>
<td>.172</td>
</tr>
<tr>
<td>Accuracy</td>
<td>1.67</td>
<td>.099</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>1.32</td>
<td>.190</td>
</tr>
<tr>
<td>Bias</td>
<td>.12</td>
<td>.901</td>
</tr>
</tbody>
</table>

*Equal variances assumed.*
Chapter 5: Discussion

The present study compares the credibility of online product reviews with a happy-looking reviewer and ones with angry-looking reviewers. A between-subjects experiment was developed to gauge if the facial expressions (happy or angry) in reviewer profile pictures could influence perceived credibility rated by the review readers. A total of 142 undergrad students were recruited to take the experiment, 56 in the pilot study and 86 in the main study. They were randomly assigned to either version of the anonymous online experiment. In either version, they were presented with two reviews with two profile pictures indicating the reviewers. One piece was accompanied by a male reviewer, and the other one with a female reviewer. Both reviews were positive. The two versions of experiment have the exact same layout, elements, review text; the only difference was the facial expressions in reviewer profile pictures. After viewing and reading the product reviews, participants were asked to answer the questions about how they would attribute the positivity of the reviews and how they perceive the review credibility on four dimensions: believability, accuracy, trustworthiness and bias. Their responses were analyzed by independent samples t-tests in SPSS statistics software. The means of the credibility scores were compared. The findings support neither hypothesis. The facial expressions in the reviewer profile pictures aren’t found to influence the way people attribute positive reviews nor the way they rate perceived credibility.

H1a and H1b presume the facial expressions in the reviewer profile pictures could affect which factor people would attribute the positive reviews to: the agreeableness of the reviewer or the actual product performance. H1a anticipates consumers exposed to the reviewer’s angry-looking profile picture were more likely to attribute good reviews to
product performance than those exposed to the reviewer’s happy-looking profile pictures, whereas H1b predicts consumers exposed to the reviewer’s happy-looking profile picture more likely to attribute the endorsement to the reviewer’s agreeableness than those exposed to the reviewer’s angry-looking profile pictures. No statistically significant difference was found between the two groups as for the attributions of the positive reviews, which suggests the facial expression in the reviewer profile pictures, or the emotion expressed in those pictures is not a substantial clue to why a reviewer wrote a review in a certain way.

One of the reasons that the investigator couldn’t observe a difference in the review attribution could be the preemption effect of the review text. Some participants expressed doubt toward the first review regardless of a change in the facial expression. A participant from the happy-looking face group wrote, “The reviewer seems to be an employee for the product, possibly over doing it.” Likewise, some other participants from the angry-looking face group wrote, “May know an individual apart of the company, help to promote the product,” and “He's paid to write positive a comment.” It seems that some participants have greater reaction to the emotion expressed in the review text rather than the profile pictures. As noted before, the degree of emotion expressed in the reviews correlates with the perceived helpfulness and objectivity, and a high level of emotion in the reviews could have a reverse effect damaging the strength of persuasion (Yin, Bond & Zhang, 2015). The experiment used in both versions has a relatively high degree of emotional arousal, as the “reviewer” repetitively emphasizes how he personally loves the F-brand peanut butter. While the results in this study do not support the hypothesis that facial expressions in reviewer profile pictures could change the way people attribute the
review, it is possible that the review conveys stronger emotions so that people pay more attention to the words rather than pictures.

H2 posits that a positive review would be rated lower in perceived credibility with a happy-looking reviewer picture than one with an angry-looking picture. In this study, the overall credibility score depended on the ratings of four dimensions: believability, accuracy, trustworthiness, and bias. There is barely a difference between the happy-looking reviewer pictures and the angry-looking reviewer pictures in terms of all credibility dimensions, so H2 is also not supported.

There could be several causes behind the results. The first is the failure of supporting H1a and H1b. As people don’t attribute the positive reviews differently, the credibility, as a corollary of the attributions of positive reviews, can also be unaffected. Secondly, reviewer profile pictures, as a less-prominent element on the side, could have received less attention from readers than the researchers had expected. The results in this study appear contrary to the avatar study where human-like avatars with negative personality traits were rated as more credible than the positive reviews written by those with positive personality traits (Lee et al, 2013). This could result from the attributes of the reviewer and environment. In Lee et al. (2013), they use avatars to express the opinions toward a package tour in a lifelike Q&A session, as an avatar provides a consumer review after a reader seeks related opinions about a certain product. The highly interactive Q&A design along with animation creates a strong connection that people would believe the avatars uttered those opinions, and they are the source of the reviews. Receivers could have a better association between the source and reviews as well. In this
study, however, reviewer images are put on the left side of the reviews without any cues to direct viewers’ attention to that.

In addition, participants could distribute more attention to the review text than real-world consumers, as they were told to evaluate the credibility of reviews in a designated experimental environment. The participants might have overthought the reviews. The participants in the experiment environment are also more likely to process the reviews via the central route instead the peripheral route, according to elaboration likelihood model. In real life, most people would just scan through a review unless it interests them to a great extent. In this sense, they process in a peripheral route that would give priority to other cues beside the strength of the arguments or ideas in the message (Petty & Cacioppo, 1984). In the context of online reviews, people would spare more attention and give it to other cues—reviewer profile pictures—in this case.

Findings in the study fail to establish the connections between reviewer profile pictures and review credibility. Lacking noticeable sources, people would rely more on the review text. The overall results suggest that for generic product review websites where reviewer profile pictures are simply put next to the reviews, there might not be much impact of reviewer profile pictures on perceived credibility. Results of this study suggest that pictures do not have such a role in the perception of credibility. When people read reviews, they probably perceive text reviews and pictures holistically without allotting certain amount attention to the reviewer profile pictures. On one hand, eliminating the influence of certain elements on credibility can be beneficial, so that consumers can focus on the reviews to make judgments. Amazon.com is an example where the products reviews are all free from profile pictures. On the other hand, it’s
helpful to include more clues for people to track the source and make better decisions based on more than one element, especially in today’s world where people could have shorter attention span and get easily bored at plain text. Also, there must be a rationale for review websites (such as Yelp.com) to make an effort to include elements like profile pictures. In this study, profile pictures didn’t play a role that the literature suggested. Findings imply that the elements would not work under certain circumstances. If eWOM platform designers want to provide more clues for audience’s judgments over source credibility, they should establish strong connection between the source and the reviews, in order to let people be aware of the source. They can do that by either making profile pictures or other source elements noticeable enough or embedding more interactivity in users’ experience.
Chapter 6: Limitation and Future Research

There are several limitations to this study. Firstly, this study used a convenience sample of undergraduate students at Ohio University. They are mostly in their early twenties and are mostly white. Students in this study might not represent all consumers in the market, because they are empirically more familiar with the Internet than older people. As different levels of familiarity could result in changes in perceived credibility (Flanagin & Metzger, 2007), it’s necessary to study how a sense of credibility is affected within a different group.

Secondly, this study could have better controlled the nuances in reviewer profile pictures, for example facial attractiveness of the reviewers. Also, it could have established a closer connection between the source and the message. This could be done by a user experience of stronger interactivity, or a different placement of the pictures. Participants might also need other stimuli to pay closer attention to the source, which is the reviewer in the study. These factors can be experimented on in future studies.

Furthermore, although the two facial expressions, happy and angry, are the most common reactions in terms of product user experience, future research should examine relationships among other types of facial expressions, such as sad and surprise. Future research could also bring in neutral facial expressions or emotions as to fully explore how emotional arousal in images contributes to the perception of review readers.
The spread of rumors and fake information online is so rampant that people nowadays raise doubts about the credibility of online word-of-mouth, particularly as many marketers have harnessed control over online product reviews on eWOM platforms. eWOM allows community members to keep fellow members informed of the products and services in the market before purchase. However, as people have limited channels to know about a stranger on the Internet, reviewer profile pictures that are displayed along with reviews become an important visual element for eWOM users to perceive the source. Although pictures can convey messages in a more efficient way than words, research on the impact of visual communication on users has been scarce in general (Kensicki, 2003), in particular on how credible a reviewer is from a user picture. In order to fill the gap, this study aims to examine whether elements of the profile pictures—facial expressions of reviewers—could influence people’s attributions of the

Although this study failed to support the effect of attribution theory on online product reviews, it doesn’t mean that such an effect does not work in a more subtle way or work with other web elements involved. Furthermore, more research needs to be done on visual credibility or audience’s perception of images in an online environment, because of the complicated nature of both visual processing and perceived credibility. A little change of profile pictures could result in a different outcome in audience’s perception. Further research could even take on animated images, as pictures of gif format are widely used on websites. Despite the number of news credibility studies, there are probably much more factors that scholars are unaware of now, especially in an ever-
changing digital era. More future research has to be done on other implicit factors on audience’s perceptions and judgments of credibility.
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http://doi.org/10.1080/15213260802669433


http://doi.org/10.1111/j.1468-2958.2006.00008.x


Appendix A: Sample Survey

F-Brand Creamy Peanut Butter, 40 Ounces

F Brand Peanut Butter is probably the best on the market. They offer a wide variety of sizes and textures. They are well packaged, so it’s easy to store and retain freshness. This is the only kind of peanut butter I come back for several times. No joke people, this is the best around. I like the scrumptious peanuts that are all mashed up into a creamy butter. This is truly the equivalent of sliced bread. You will not regret buying this. I mean honestly, what else am I supposed to use for my PB&J sandwiches? No other brand will do, so when in doubt, I crack open a jar of it. Let me tell you something, it’s even good melted. Crazy, right?! So do yourself a favor and buy some F Brand Creamy Peanut Butter.

In your opinion, the reviewer wrote this review in this manner, because

- the reviewer is the type of person who always says positive things about an object
- the reviewer does not tend to find fault with others
- the product must be outstanding
- the product provides the good features that most people want to have
- Other reasons. Please specify.

Rate your level of agreement with the following statement: The reviewer exaggerated how good this product is.

Strongly disagree  ○ ○ ○ ○ ○ ○ ○ ○  Strongly agree

Please read the above product review carefully and decide how the review should be rated on the following scales categories.

<table>
<thead>
<tr>
<th>Unbelievable</th>
<th>Believable</th>
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<tbody>
<tr>
<td>Inaccurate</td>
<td>Accurate</td>
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<tr>
<td>Untrustworthy</td>
<td>Trustworthy</td>
</tr>
<tr>
<td>Biased</td>
<td>Unbiased</td>
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B-Brand Pick-A-Size Paper Towel, 6 Count

I like the B brand paper towels because they don’t stink. There are paper towels I like better because they are thicker and more absorbent, but they smell like mildew when you get them wet. B brand paper towels smell slightly like cologne when they get wet. You can even smell this fragrance when they are dry, just not as much. I’ve used generic paper towels and will never go back, because these are much better than them. Those are not perforated well and break in the middle and are smaller. I like to tip my plate to the side and use one to take excess water off my plate of spinach and other things. They also work to lay bacon on and don’t soak through. They work great.

In your opinion, the reviewer  wrote this review in this manner, because
• the reviewer is the type of person who always says positive things about an object
• the reviewer does not tend to find fault with others
• the product must be outstanding
• the product provides the good features that most people want to have
• Other reasons. Please specify.

Rate your level of agreement with the following statement: The reviewer exaggerated how good this product is.
Strongly disagree 〇 〇 〇 〇 〇 〇 〇 〇 〇 〇 Strongly agree

Please read the above product review carefully and decide how the review should be rated on the following scales categories.

<table>
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<tr>
<th></th>
<th>Unbelievable</th>
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<td>Biased</td>
<td>〇 〇 〇 〇 〇 〇 〇 〇 〇 〇</td>
<td>Unbiased</td>
</tr>
</tbody>
</table>
What kind of emotion do you think the reviewer is experiencing?

- Happy
- Angry
- Neutral
- I don’t know
What is your gender?
- Male
- Female

What’s your age? Numerics only

What’s your race?
- White
- African American
- Asian
- Hispanic
- American Indian and Alaska Native
- Other race

What grade are you in?
- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student

How frequently do you shop online?

I do online shopping...

Very often
Occasionally
Sometimes
Rare
Never

Based on your personal experience, are online product reviews credible?

Online reviews are not credible at all

Online product reviews are extremely credible

-End of Survey-