Does Being an Expert Make You More Negative? An Investigation of Subjective Expertise and Electronic Word-of-Mouth Communication

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DOES BEING AN EXPERT MAKE YOU MORE NEGATIVE?
AN INVESTIGATION OF SUBJECTIVE EXPERTISE AND ELECTRONIC WORD-
of-MOUTH COMMUNICATION

By
Jiangmeng Liu

A DISSERTATION

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DOES BEING AN EXPERT MAKE YOU MORE NEGATIVE?
AN INVESTIGATION OF SUBJECTIVE EXPERTISE AND ELECTRONIC WORD-OF-MOUTH COMMUNICATION

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This dissertation is aimed at filling a gap in electronic word-of-mouth (eWOM) literature by examining how communicator’s subjective expertise impacts generation of eWOM. Based on a review of literature in psychology, marketing, consumer research, and communication, four underlying mechanisms (sense of power, dogmatic cognition style, hubristic pride, and emotions) were proposed to explain the effect of subjective expertise. Two distinctive features of eWOM platforms were incorporated into the study as potential moderators: anonymity and audience size of the review platform.

Based on prior literature, this study proposed 14 hypotheses in total and 2 research questions. Two empirical studies were conducted. Study 1 was a field observation of eWOM communication in the natural setting. A sample of 470 Yelp users and 39,091 reviews produced by these sampled users were collected using the web crawling technique. Study 2 was a 2 (subjective expertise: high vs low) × 2 (anonymity: anonymous vs real identity) × 2 (audience size: large vs small) between-subjects experiment conducted online. Two hundred and sixty-two effective responses were collected via Amazon Mechanical Turk.
Results of Study 1 revealed a negative correlation between eWOM valence (rating at the review level and aggregated rating at the user level) and length of expertise status.

Results of Study 2 revealed a two-way interaction between subjective expertise and anonymity on numeric rating, and number of negative thoughts mentioned in one textual review. Moreover, results of conditional process modeling demonstrated that sense of power mediated such moderation effects. Specifically, a negative indirect effect of subjective expertise on eWOM valence through sense of power was discovered.

Additionally, two dimensions of emotions (valence and dominance) mediated the effect of subjective expertise on eWOM valence, which was not influenced by either audience size or anonymity. Findings of this research provide theoretical contributions to eWOM research by exploring the influences of communicator characteristics and platform characteristics on eWOM generation.
ACKNOWLEDGEMENTS

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CHAPTER 1. INTRODUCTION

Background

Word-of-mouth (WOM) is not a new term to marketers and communication professionals. About 3.4 billion brand-related conversations occur every day (Keller & Fay, 2006; see also De Angelis, Bonezzi, Peluso, Rucker, & Costabile, 2012). Since the 1950s, a great number of studies have been conducted to understand how this informal consumer-to-consumer information sharing could effectively influence individuals’ purchase decisions (e.g., Arndt, 1967; Brown & Reingen, 1987; Gruen, Osmonbekov, & Czaplewski, 2006; Katz & Lazarfeld, 1955; Keller, 2007; Liu, 2006; Sheth, 1971; Wang, 2011). In general, WOM is estimated to have an influence on almost 70% of purchase decisions, and drive two thirds of all industries (Balter, 2008; De Angelis et al., 2012; Dye, 2000). Entering a new era with the development of Internet technology, traditional offline WOM has been extended to blogs, review websites, social media, and other electronic channels (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Mishra & Satish, 2016). These electronic channels enable consumers to express their opinions using not only textual messages but also images, videos, and other multimedia elements. Moreover, this new electronic WOM (eWOM) makes it possible to spread the word to many people—acquaintances or strangers—within a short span of time and without geographical boundaries (Mishra & Satish, 2016; Weisfled-Spolter, Sussan, & Gould, 2014). Although there are concerns about eWOM’s credibility, according to the 2014 Local Consumer Review Survey, about 88% of consumers trust eWOM as much as recommendations from friends and acquaintance (Mishra & Satish, 2016).
A survey conducted by Alloy Media & Marketing and Harris Interactive demonstrated that WOM is more credible and influential compared with other marketing and communication tactics such as TV commercials, magazine ads, and sampling (Creamer, 2005), because “it is perceived as having passed through the unbiased filter of ‘people like me’” (Allsop, Bassett, & Hoskins, 2007, p. 398). This is why, at present, more companies are paying attention to eWOM and even considering eWOM (or buzz) a new marketing tool. Tesla, for example, considered buzz to be their major marketing strategy (McCarthy, 2013). Compared with Nissan, who spent $25 million on advertising its electronic car in 2012, Tesla neither hired ad agencies nor spent money on paid ads, but yet still generated enormous buzz through social media (McCarthy, 2013). In his book Contagious: Why Things Catch On, Berger (2013) explains how WOM helped a local steakhouse flourish, concluding “good customer service is better than any ad.” Bughin, Doogan, and Vetvik (2010) suggest that WOM could generate “more than twice the sales of paid advertising” (p. 8). Overall, today WOM is incredibly important for both consumers and professionals, and for this reason deserves more attention from academia.

Research of traditional and electronic WOM is twofold. One route of research is conducted from the message receivers’ (audiences’) perspective, investigating how WOM impacts consumer’s information processing and decision-making at both the individual and firm level (e.g., Bichart & Schindler, 2001; Ba & Paclou, 2002; Chevalier & Mayzlin, 2006; Gruen et al., 2006; Liu, 2006). The second type of study is conducted with the goal of examining reviewers or eWOM communicators, exploring questions such as what motivates consumers to engage in WOM communication (e.g., Engel, Blackwell, Miniard, 1993; Hennig-Thurau et al., 2004; Sundaram, Mitra, & Webster,
1998), which types of content they would like to transmit or generate (e.g., Bronner & Hoog, 2011; Huang, Chou, & Lan, 2007), which types of consumers under what conditions would transmit or generate more eWOM (e.g., Chu & Kim, 2011; Liu, Zhao, & Qi, 2016), and so on. This study attempts to advance the understanding of eWOM communicators by exploring the differences in behavior patterns between expert and non-expert reviewers.

As an important factor in consumer psychology, expertise has been found to have an influence on information searching, information processing, decision-making, and even consumption experience (e.g., Alba & Hutchinson, 2002; Moorman et al., 2004; Packard & Wooten, 2013; Campbell, 2015). For example, research indicates that non-experts are more likely to use peripheral cues and stereotypes to form attitudes or make decisions, whereas experts can process information more deeply and comprehensively (Mueller, Francis, & Lockshin, 2008; Rao & Monroe, 1998). Studies have also found that expertise (subjective) can lead to close-mindedness, overconfidence, tendency of overclaim, and giving biased evaluations (Atir, Rosaenzweig, & Dunning, 2015; Fisher & Keil, 2016; Ottati, Price, Wilson, & Sumaktoyo, 2015). Therefore, it is reasonable to expect expertise to have an impact on communicators’ information processing and communication behaviors.

In persuasive communication and eWOM research, expertise has garnered much attention from scholars. It was found that eWOM messages from expert sources were perceived as more helpful and hence more persuasive than information from non-expert sources (e.g., Bansal & Voyer, 2000; Cheung, Lee, & Rabjohn, 2008; Gilly, Graham, Wolfinbarger, & Yale, 1998; Reichelt, Sievert, & Jacob, 2014; Reimer, Mata, &
Stoecklin, 2004; Sotiriadis & Van Zyl, 2013). As a result of these findings, several studies in eWOM have been conducted to understand which (and how) cues influence audiences’ judgment of source expertise (e.g., Ayeh, Au, & Law, 2013; Dou, Walden, Lee, & Lee, 2012; Willemesen, Neijens, & Bronner, 2012). Kim, Mattila, and Baloglu (2011) found that eWOM receivers’ expertise and gender jointly influenced their motivations to seek online reviews, while others found no significant relationship between receivers’ expertise and eWOM adoptions (Bansal & Voyer, 2000; Fan, Miao, Fang, & Lin, 2013; Gilly et al., 1998). However, little research has been done to understand how communicators’ expertise (especially subjective expertise) could impact their communication behaviors.

To fill this gap in the burgeoning eWOM literature, this study focuses on the communicator’s self-perceived expertise, i.e., the communicator’s self-assessment of his/her own knowledge and expertise in a domain, which is also called “subjective expertise” (Liu, 2013; Mueller, Francis, & Lockshin, 2008). The reasons for investigating subjective expertise but not objective expertise are as follows: 1) subjective expertise is an important component of consumer expertise and a subject undergoing intense study in the fields of marketing and psychology (Campbell, 2015). Despite this, subjective expertise has not been extensively studied in the context of eWOM; 2) compared to objective expertise, subjective expertise is much easier to alter (Campbell, 2015). For instance, previous studies have manipulated participants’ subjective expertise by giving them an ostensive knowledge quiz paired with fictitious feedback (e.g., score, percentile) (e.g., Atir et al., 2015; Wong, 2010, 2013). Manipulation of subjective expertise can also be achieved by altering the difficulty level of an ostensive test (Atir et al., 2015). Such
malleability of subjective expertise makes study results more applicable. Reviewer websites or marketers can temporally modify consumer’s subjective expertise to achieve or avoid certain effects.

**Purpose of the Study**

This research is aimed at exploring how subjective expertise influences individual’s eWOM generation and through which mechanisms. Four potential mechanisms—power, dogmatic cognition style, hubristic pride, and emotions—were proposed. Two factors (anonymity and audience size) that reflect distinctive characteristics of eWOM platforms compared to traditional offline WOM were incorporated as potential moderators. A field study (Study 1) as well as a three-way factorial between-subjects online experiment with participants recruited from Amazon Mechanical Turk (Study 2) were conducted.

The results of this study make several contributions to communication and eWOM research. First, this study calls attention to the importance of communicators’ subjective expertise in understanding eWOM communication. Although subjective expertise was found to influence individual information processing and decision-making, it remains unknown how it could influence communication behavior, especially in the field of eWOM communication. Sohn and Leckenby’s (2005) study, as well as Wojnicki’s (2006), were the first step in understanding this topic. The first study focused on WOM transmission, which is different from WOM generation (De Angelis et al., 2012). Wojnicki’s (2006) study took the amount of eWOM a participant would like to generate as the dependent variable, which was measured via a Likert scale in a self-reported manner. This study also aims to advance the understanding of eWOM
generation, and especially the valence of such generation. Instead of asking about a participant’s communication intention, this study analyzed the valence of actual eWOM messages that participants composed during the experiment.

Third, following Berger’s (2014) suggestion, this study incorporated anonymity and audience size as moderators. According to Berger, although both variables could sway communicators’ behaviors, these have been overlooked in eWOM literature. The interaction effects revealed in this study could help both scholars and website operators gain a better understanding of the influences of platform features on eWOM behaviors.

Outline

This manuscript is divided into six chapters. In this chapter (Chapter 1), an introduction of the research background as well as the purpose of the study are presented. In Chapter 2, literature on constructs (including WOM, expertise, power, dogmatic cognition style, pride, emotions, anonymity, and audience size) and relevant theories are reviewed. Hypotheses and research questions were developed, and rationales are provided. Chapter 3 describes the design, sampling, and data collection process of Study 1. Results of data analysis and a discussion of Study 1 are also presented in Chapter 3. Chapter 4 describes the implementation of Study 2, including study design, the process and results of pretest, the procedure of the formal test, measurement scales, data collection, and demographic features of participants. Results of data analysis are presented in Chapter 5. Discussions of study results and limitations, as well as suggestions for further research are provided in Chapter 6.
CHAPTER 2. LITERATURE REVIEW

Word-of-Mouth and Electronic Word-of-Mouth

As one of most ancient social mechanisms, WOM refers to a form of interpersonal communication on consumption-related topics for non-commercial purposes (Richins, 1984; Cheong & Morrison, 2008). With the rapid development of Internet technology and its two-way communication capabilities, traditional WOM has been given new significance in recent years (Dellarocas, 2003). Via the Internet, consumers can share their opinions and experiences about products, services, companies, and more on a large-scale with other consumers. At the same time, they have the access to the thoughts and stories of numerous other consumers regarding the same good or service. Via the Internet, WOM has expanded in scope from one-to-one or one-to-few interactions among limited acquaintances to many-to-many communications (Weisfeld-Spolter, Sussan, & Gould, 2014). Word-of-mouth via the Internet, or eWOM, is defined as “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, Gwinner, Walsh, & Gremler, 2004, p. 39). Various online outlets, such as online review websites (e.g., yelp.com, epinions.com), retailer’s websites (e.g., amazon.com), brand’s websites (e.g., forums.us.dell.com), message boards, blogs, forums, and even social media, provide places for individuals to write opinions and share with others (Dellarocas, 2003; Dellarocas, Zhang, &Awad, 2007; Godes & Mayzlin, 2004; Lee & Youn, 2009).

With respect to offline WOM motives, seven distinct motives have been identified as associated with positive and/or negative WOM communication (Sundaram, Mitra, &
Webster, 1998). **Product involvement** (i.e., the interest in and a feeling of excitement involved in using and owning a product), **self-enhancement** (i.e., image enhancement through being an intelligent consumer), and **helping the company** are three major reasons why individuals engage in positive WOM communication (Engel, Blackwell, & Miniard, 1993; Dichter, 1966; Sundaram et al., 1998). **Anxiety or dissonance reduction** (i.e., to reduce cognitive dissonance, anger, anxiety and/or frustration after a consumption experience), **vengeance** (i.e., to react against a company after a negative consumption experience), and **advice seeking** (i.e., obtain suggestions to solve a problem) are believed to motivate negative WOM communication (Engel et al., 1993; Sundaram et al., 1998). In addition, **altruism** is a motive associated with both positive and negative WOM communication. Communicators may engage in WOM for providing advice or preventing others from encountering similar problems without expecting anything in return (Hennig-Thurau et al., 2004; Sundaram et al., 1998).

Being conceptually close to one another, WOM and eWOM share many common motives. Through an online survey with over 2,000 participants, Hennig-Thurau and colleagues (2004) identified eight motives of engaging in eWOM. In addition to venting (vengeance), helping the company, advice seeking, self-enhancement, and concern for other consumers (altruism), three motives are uniquely linked to eWOM communication: **platform assistance, social benefits, and economic incentives.** Among the eight motives, concern for other consumers is the primary motive across different segments of participants.

In general, both traditional (offline) and eWOM are found to have strong persuasive effects on various outcomes at both the individual and firm level (De Bruyn & Lilien,
At the individual level, studies have empirically demonstrated that eWOM can influence an individual consumer’s attitude toward a product/service, willingness to pay, and his or her trust and loyalty toward a company (e.g., Bickart & Schindler, 2001; Ba & Paclou, 2002; Gruen, Osmonbekov, & Czapelewski, 2006; Tohidinia & Lurie, 2015; Schau & Muniz, 2002). At the firm level, e-WOM was found to affect a company’s sales, revenues, and even stock prices (e.g., Chevalier & Mayzlin, 2006; Duan, Gu, & Whinston, 2008; Ho-Dac, Carson, & Moore, 2013; Trusov, Bucklin, & Pauwels, 2009). For instance, Duan and colleagues (2008) discovered that volume of eWOM messages, rather than their valence, has significant influence on movie box sales, supporting an awareness effect of eWOM on sales. Ho-Dac and coauthors (2013) examined the impact of eWOM on strong brands (i.e., brands with positive brand equity) and weak brands. Results demonstrated an impact of eWOM valence on sales, but only for weak brands. Later, the increased sales helped stimulate more positive eWOM messages and boost brand equity, which eventually formed a positive feedback loop for weak brands. In addition, eWOM has been found to have influence on investor decisions (Aggarwal, Gopal, Gupta, & Singh, 2012).

Compared to other information from mass media or marketing sources, eWOM messages are perceived as more credible and thus are more persuasive (Bickart & Schindler, 2001; Godes & Mayzlin, 2004).

Not all WOM messages are equally persuasive (Tohidinia & Lurie, 2015). Numerous studies have been conducted to understand how message characteristics as well as source characteristics influence the persuasive effects of WOM communication on message receivers. For example, previous research has found that valence (Chevalier & Mayzlin,
2006; Clemons & Gao, 2008; Li & Hitt, 2008), length (Mudambi & Schuff, 2010), emotions (Malik & Hussain, 2017), and even the temporal contiguity cue embedded in the message (Chen & Lurie, 2013) impact the influence of WOM messages.

Specifically, the effect of WOM valence attracts much attention from scholars. Valence of eWOM is usually operationalized as a numeric rating assessed on a 5-point scale (e.g., Chevalier & Mayzlin, 2006; Duan et al., 2008; Lee & Youn, 2009). In some studies, the number of negative or positive words and the number of positive (or negative) thoughts were used as a proxy for eWOM valence (e.g., Baek, Ahn, & Choi, 2012; Dubois, Bonezzi, & De Angelis, 2016). This research incorporates both operational definitions of eWOM valence by analyzing numeric ratings as well as coding and counting numbers of positive and negative thoughts.

A great number of studies have revealed a negative bias (i.e., people tend to give greater weight and attention to negative information than positive information) while processing WOM messages (e.g., Baek et al., 2012; Chevalier & Mayzlin, 2006; Clemons & Gao, 2008; Li & Hitt, 2008). Message receivers tend to believe that negative WOM messages are more credible, more helpful, and more important, and thus are more likely to be persuaded by negative WOM messages. For example, Baek, Ahn, and Choi (2012) demonstrated that if a message contains more negative words, it is perceived as more helpful. Chevalier and Mayzlin (2006) examined reviews and ratings of books on Amazon.com and Barnesandnoble.com. They found that average ratings have a significant influence on book sales, and one-star ratings have a stronger influence on sales than five-star ratings, which suggests a negativity bias (Mizerski, 1982). Such bias has also been established at the firm level. Aggarwal et al. (2012) demonstrated that
negative eWOM has greater impact on company financing performances than positive eWOM.

In addition to negative WOM messages, receivers also give more weight to information from sources with higher expertise. Expertise (also termed as competence, qualifications, authoritativeness), refers to the assessment of whether the communicator has the knowledge, skill, or experience required to provide accurate and valid information (Hilligoss & Rieh, 2008; O’Keefe, 2002). Word-of-mouth messages from a perceived expert source are deemed more accurate, credible, and as having stronger influence on receivers’ attitudes and behavioral intentions.

While a great deal of WOM and eWOM studies have focused on how messages influence individual’s attitudes and behavior, only a few have investigated the WOM communicator’s psychological mindset and communication behaviors in the context of WOM (Tohidinia & Lurie, 2015). This study aims to advance the understanding of WOM communication by focusing on communicators. Specifically, it examines how communicators’ subjective expertise influences eWOM generation. In the next section, literature on subjective expertise as well as objective and other-perceived expertise are reviewed and discussed.

**Consumer Expertise**

In marketing, expertise refers to a consumer’s ability and knowledge in a consumption-related domain (Alba & Hutchinson, 1987, 2000; Hadar, Sood, & Fox, 2013). The scope of consumer expertise incorporates knowledge of product type (such as comprehension of brand names), product attributes or features, quality, purchase information, advertising, and so on (Chiou, 2003; Packard & Wooten, 2013). Some
believe that expertise as well as familiarity (i.e., one’s experiences in a consumption-related domain) is a part of knowledge (i.e., the information kept in one’s long-term memory”) (e.g., Alba & Hutchinson, 1987, 2000), whereas others use the terms expertise and knowledge interchangeably (e.g., Atir et al., 2015; Hadar et al., 2013). Following Hadar et al.’s (2003) suggestion, in this study there is no differentiation made between expertise and knowledge, and the two are considered notions of the same construct.

While reviewing the literature of communication, marketing, business, and psychology, three types of expertise were found to be frequently investigated: 1) objective expertise; 2) subjective expertise (or self-perceived expertise); and 3) other-perceived expertise (or perceived source expertise). Objective expertise concerns how much actual knowledge is stored in one’s memory (Carlson, Vincent, Hardesty, & Bearden, 2009; Hadar et al., 2013; Moorman, Diehl, Brinberg, & Kidwell 2004), whereas subjective and perceived communicator expertise are perceptions or individual judgments of one’s knowledge and expertise. Specifically, subjective expertise refers to the perception of one’s own expertise and knowledge in a given domain, or “the metacognitive feeling of knowing” (Hadar et al., 2013, p. 304; see also Carlson et al., 2009; Moorman et al., 2004). Whether objective expertise and subjective expertise are correlated remains unclear. Some scholars believe that subjective expertise is positively correlated with objective expertise (see Carson et al., 2008). Others found low correspondence or no correlation between objective and subjective expertise (e.g., Bearden, Hardesty, & Rose, 2001; Brucks, 1985; Campbell, 2015; Carlson et al., 2009; Hadar et al., 2013; Moorman et al., 2004; Radecki & Jaccard, 1995). Furthermore, some studies have empirically demonstrated that people tend to overestimate what they actually
know (Alba & Hutchinson, 2000; Duning, 2011; Kruger & Duning, 1999). Other-perceived expertise, or perceived source expertise, reflects the perception of how much knowledge the communicator or message source possesses (O’Keefe, 2002).

**Perceived Source Expertise**

In persuasive communication and eWOM research, perceived source expertise, together with perceived source trustworthiness, are considered critical components of perceived source credibility (i.e., the perceived believability of a communicator) (Hovland, Janis, & Kelley, 1953; O’Keefe, 2002). Perceived source expertise refers to a subjective perception and judgment made by message recipients about the source’s ability to provide accurate and valid information (O’Keefe, 2002). There are several factors that can affect perceived source expertise. Though not being empirically tested, factors such as the communicators’ training, experience, and occupation are believed to influence perceptions of source expertise, and have been manipulated by researchers in previous experiments (O’Keefe, 2002). For example, a professor who has been recognized as an authority in a given field (e.g., physics) is usually considered a highly expert source. In comparison, a high school student’s term paper written on the same topic is usually deemed less expert (O’Keefe, 2002).

Demographic variables, such as gender, age, and race, can also shift receivers’ judgments about source credibility based on associated stereotypes. For example, studies have found that in general, male communicators are deemed more expert than female communicators (Pearson, 1982). In addition to source-related factors, message-related factors such as fluencies in delivery, speaking rate, using citations, sidedness of
arguments (one-sided message vs. two-sided message) have been found to affect perceived source credibility as well (O’Keefe, 2002).

Regarding persuasiveness, in general messages from an expert source are more persuasive and can elicit greater attitude changes than those from a novice source. Adopting the framework of the Elaboration Likelihood Model (ELM), some of the aforementioned factors (such as demographic variables, physical attractiveness, occupation, and position) affect source expertise and the ultimate persuasive success through the peripheral route. According to the ELM, when the message receiver has low motivation or limited resources (i.e., time and ability) to process the information, they engage less in thinking and elaboration on the content/argument and instead make their judgments based on simple cues (Petty & Cacioppo, 1986). For example, factors such as physical attractiveness, position, occupation, race, and gender each require fewer cognitive resources to be utilized, and thus are factors at play when people undertake the peripheral route to process information. Thus, under low motivation or involvement conditions, the presence of these peripheral cues leads to a higher evaluation of source expertise. Receivers later make their ultimate decisions (e.g., to buy a product, to abandon an unhealthy behavior, or to change an attitude) using the source expertise as a peripheral cue.

Other factors (especially message-related factors), are only noticed after carefully examining the message, and thus would influence persuasion directly or indirectly through influencing perceptions of source expertise. For example, when a message receiver has sufficient motivation, time, and ability to process a message, he/she undergoes a central route to scrutinize the message. In this case, receivers are less likely
to make judgments (about source expertise as well as ultimate decisions) based on peripheral cues but rather on the actual quality of the argument reflected by various message features. Therefore, messages with certain features (such as a two-sided argument, strong argument) could elicit more changes in attitude and/or behavior (intention) directly and indirectly through eliciting a more favorable evaluation of source expertise (Reimer, Mata, & Stoecklin, 2004).

**Objective Expertise**

Objective expertise is believed to reduce cognitive effort and improve individual’s abilities to process, elaborate, and recall consumption-related information (Alba & Hutchinson, 1987). Studies have demonstrated that individuals with higher levels of expertise can more efficiently detect consumption-related information (Johnson & Russo, 1984; Punj & Staelin, 1983; Rao & Monroe, 1988) and have more confidence in their decision-making (Brucks, 1985; Carlson et al., 2009). Lacking the knowledge and ability to detect the actual quality of a product/service, non-experts are more likely to use stereotypes or available peripheral cues to make their judgments and decisions (Alba & Hutchinson, 1987; Chiou, 2003). For example, Chiou (2003) conducted two experimental studies to examine how the effect of country of origin differed between expert and novice consumers. In each study, objective expertise was measured through an expertise scale, which was developed by the researchers after consulting industry experts. Participants in the novice group (low expertise group) relied more on the product’s country of origin to develop expectations. They rated the product more favorably when the country of origin was perceived as more favorable (e.g., cameras made in Japan versus Taiwan, clothes made in Italy versus Taiwan). On the contrary, participants in the expert group were not
influenced by the country of origin cue. No significant difference was found between their rating of products from favorably country and those from unfavorably country. 

*Subjective Expertise*

Although research has demonstrated that objective expertise could be a stronger predictor than subjective expertise for various outcomes (Cordell, 1997), subjective expertise merits attentions because it is more malleable than objective expertise (Campbell, 2015). For example, research has demonstrated that more experience with the product category enhances both objective and subjective expertise, but this effect is stronger for subjective expertise than objective expertise (Park, Mothersbaugh, & Feick, 1994). In addition, subjective expertise can be influenced momentarily by contextual and social factors (Wong, 2010). Performance is one of the factors found to influence subjective expertise, and individuals often rely on their performance of a task to infer their level of expertise. In various studies, through providing favorable (or unfavorable) performance feedback (e.g., expertise quiz score) after an ostensive task (e.g., knowledge quiz), researchers could boost (or undermine) participants’ subjective expertise (Atir et al., 2015; Moorman et al., 2004; Wong, 2010). Other studies manipulated participants’ levels of subjective expertise by altering task difficulty (e.g., Burson, 2007). Those who completed a more (less) difficult task tended to perceive themselves as having lower (higher) expertise. Besides task performance, subjective expertise can be influenced by socially induced factors. For instance, when exposed to a comparison target with higher (lower) domain-specific expertise, individuals make upward (downward) social comparisons with the target, which undermines (boosts) the evaluation of their own expertise (Vohs & Heatherton, 2004).
The perception of one’s expertise has been found to play an important role in information searching, information processing, and decision-making (Alba & Hutchinson, 2000; Moorman, Diehl, Brinberg, & Kidwell, 2004; Packard & Wooten, 2013; Radecki & Jaccard, 1995). However, no conclusion has been reached regarding whether subjective expertise facilitates or impedes decision-making. Some believe that people with a higher level of knowledge and expertise (determined using self-reporting measures) tend to process information in a deeper and more detailed way, making use of more attributes and considering the relationships between attributes (Mueller, Francis, & Lockshin, 2008; Rao & Monroe, 1988). Non-experts (self-perceived), on the other hand, usually rely on a single peripheral cue (e.g., price, country of origin) or several attributes independently in decision-making. Some researchers have found no significant difference between people with high subjective knowledge and low subjective knowledge (Guidry, Babin, Graziano, & Schneider, 2009).

In addition, some studies have demonstrated that high subjective expertise could promote close-mindedness and biased evaluation (e.g., Atir et al., 2015; Ottati et al., 2015). For example, through six studies, Atir et al. (2015) empirically demonstrated that participants who were manipulated to believe they had high expertise tended to claim impossible knowledge (i.e., claiming knowing of a nonexistent concept, place, or information). This tendency to over-claim is not diminished by warning participants that some of the concepts are fictitious, which excludes the explanation of image management. In other words, when people believe that they have sufficient knowledge, they stop processing or searching for information (necessary to achieve genuine knowledge or
accurate judgment) and instead rely on the feeling of knowing and preexisting position to make a final (but likely biased) decision.

Subjective expertise not only has influence on the amount of information sought out, but also on the location of search. Radecki and Jaccard (1995) discovered that increased perceptions of one’s knowledge (subjective expertise) is linked to less information searching. Moorman and colleagues (2004) found that subjective expertise influences the quality of product choice through impacting the searching location. Based on two experimental studies and field research, they discovered that subjective expertise promotes searching between environments (i.e., “spend(ing) more time searching in higher-quality categories and less time in lower-quality categories”, p. 674) rather than searching within environments (i.e., “spend(ing) more time examining higher-quality products and less time examining lower-quality products within a given category”). The effect of subjective knowledge on search location was driven by a self-consistency motive and led to an increased choice quality.

Some studies linked increased subjective expertise with biased evaluation. Adopting the role theory, Ottati et al. (2015) proposed the Earned Dogmatism Hypothesis and demonstrated that self-perceived expertise indeed increases close-minded (dogmatic) cognition. According to role theory, role identity refers to a set of behavioral expectations attached to a position in an organized set of social relationships. People use information (behavior expectation) attached to a role stored in the mind to interpret in-role and extra-role behaviors. Therefore, after increasing self-perceived expertise, an individual will behave more like an “expert,” including feeling entitled to adopt a more dogmatic or forceful orientation (Ottati et al., 2015) rather than more humble and open-minded
positions. In an investigation of attitude formation on controversial political issues, Liu and Ditto (2013) found that those who reported having more knowledge on a specific topic tended to possess greater bias than those reporting less self-perceived knowledge.

Subjective expertise does not always exert negative influences. For instance, Campbell’s (2015) dissertation study examined the effects of subjective expertise on consumption enjoyment. Results demonstrated that subjective expertise related to both item enjoyment (i.e., the enjoyment resulting from an attribute of the product, such as its flavor) and process enjoyment (i.e., the enjoyment resulting from critically evaluating the attributes of the product). Even for low quality products that did not generate item enjoyment, process enjoyment remained positive. In addition to this, subjective expertise makes participants more engaged in actions to improve the quality of the consumption experience.

Hadar and colleagues (2013) examined how subjective expertise influences consumer’s financial decisions. In their study, subjective expertise was manipulated in four different ways, including varying the difficulty level of the ostensive knowledge quiz, varying the amount of key information provided, varying the use of technical jargon, and varying the level of salience of missing information. They found that enhanced subjective expertise led to an increase in willingness to invest in a fund or investment program (Hadar et al., 2013).

Wong (2010, 2013) examined the effects of subjective expertise on product evaluation via five experiments. Wong found that people with high subjective knowledge processed both positive and negative information, thus tended to give extreme
evaluations. On the contrary, low subjective knowledge individuals sought out more negative information, and gave less extreme evaluations.

Sohn and Leckenby’s study (2005) was among the first to extend the research of subjective expertise to eWOM transmission. A 3 (information valence: positive vs negative vs neutral) × 2 (subjective expertise: high vs low) factorial between-subjects experiment was conducted. Participants were randomly exposed to either positive, negative, or neutral product information. Subjective expertise was measured after the manipulation of product information. The dependent variable was the information transmission likelihood, which was measured using a semantic differential scale with three items. Statistical analysis demonstrated that experts (i.e., those reporting a subjective expertise score above the median) were more likely to transmit positive information while non-experts preferred to transmit more negative information. Sohn and Leckenby (2005) argued that the differences in levels of motives to obtain social approval between experts and non-experts could explain the effect of subjective expertise on transmission valence. They assume that non-experts have relatively low motives to obtain social approval than experts, and therefore transmit more negative than positive information. However, Sohn and Leckenby did not provide empirical evidence to support this explanation in their study.

Also focusing on WOM transmission, Packard and Wooten (2013) were particularly interested in the discrepancy between perceived (subjective) expertise and ideal expertise (i.e., the amount of knowledge or expertise an individual wish they have in a specific domain), and they revealed a compensatory knowledge signaling effect. The authors demonstrated that people utilized WOM transmission as a method of
compensating for the unfavorable discrepancies between the perceived expertise and ideal expertise. The more discrepancy between perceived and ideal expertise, the higher the intention to write and share WOM content.

Wojnicki (2006) adopted the impression management theory to investigate the joint influence of subjective expertise and satisfaction level. Satisfaction level was manipulated by varying the outcome of the experience to be either positive or negative. Subjective expertise was measured as the other independent variable. It was proposed that in general, the self-enhancement bias would make participants share more positive than negative experiences, and self-verification tendencies would discourage dissatisfied experts and satisfied non-experts from generating more WOM content. As expected, a two-way interaction was identified. Results of data analysis show that satisfied experts like to generate more WOM messages than dissatisfied experts and non-experts (both satisfied and unsatisfied). This interaction effect was stronger when the salience of expertise increased, but vanished if the experts could not account for the positive outcome of the experience (i.e., the to-be-reviewed restaurant was imposed on rather than selected by the participants).

Built on studies of the subjective expertise effect on eWOM transmission and generation amount, this study examines the influence of subjective expertise on the valence of eWOM generation in the form of numeric ratings and content valence (operationalized as number of positive thoughts and number of negative thoughts). According to Angelis et al. (2012), eWOM transmission and generation are conceptually different, and people prefer to transmit eWOM depicting negative experiences whereas generate ones depicting positive experiences. It remains unknown how subjective
expertise influences the valence of eWOM generation, and this research is aimed at exploring this effect. The main research question of this research is as follows:

**RQ1:** How does subjective expertise influence eWOM valence (in the form of numeric rating, number of positive and negative thoughts generated in a review)?

In addition, to better understand how subjective expertise exerts influence on eWOM generation, four underlying mechanisms—power, dogmatic cognition style, hubristic pride, and emotions—are proposed. Below, reviews of literature on each concept are provided, as well as the rationale behind the proposed mechanisms.

**Power**

The interest in power in psychology has been revived recently after remaining dormant for several decades (Schmid Mast, 2010). Power is defined as “the opportunity or capacity to control or influence others” (Anderson & Berdahl, 2002; Bombari, Schmid Mast, & Bachmann, 2017), and is usually obtained through allocating (or withholding) resources/rewards as well as administering punishment (Anderson and Berdahl, 2002; Fast & Chen, 2009; Keltner, Gruenfeld, & Anderson, 2003). Power can be possessed as a result of a certain position or function in a hierarchy (e.g., being the CEO of a company) (Schmid Mast, 2010). Status can also formulate power, since members of certain social groups often control different amount of resources (Carli, 1999; Schmid Mast, 2010; Simon & Oakes, 2006). For instance, females in general possess less power than males (Carli, 1999). In addition, personality traits such as personality dominance and extroversion are found to affect power levels. Personality dominance refers to how much an individual desires to influence or control others (Ellyson & Dovidio, 1985). A person of high personality dominance tends to possess more power and behave more dominantly
(Mast, 2010). It should be mentioned that as one dimension of the Big Five model of personality, agreeableness was related to social dominance orientation, which may also relate to power (Ekehammar, Akrami, Gylje, & Zakrisson, 2004).

It is worth noting that resources, rewards, and punishments are not limited to material goods (such as food, money, physical harm, job termination), but also include social substances (such as knowledge, decision-making opportunities, verbal abuse) (Keltner et al., 2003). Therefore, power can also be derived from one’s skills, abilities, knowledge, or expertise (Mast, 2010). Specifically, French and Raven (1959) identified expertise (i.e., the belief that an individual has knowledge and expertise on a given domain) as one of the six sources of power (Raven, 1959). Expertise is also frequently utilized as a manipulation of power (e.g., Ellyson, Dovidio, & Corson, 1981; Dovidio, Ellyson, Keating, Heltman, & Brown, 1988). For instance, in Ellyson and colleague’s (1988) study about power and visual behaviors, power was operationalized as expert power (see Study 1). Participants were asked to indicate how much they felt they knew in a given area before the formal experiment. Those who felt themselves to be an expert in the given area were considered high in power, whereas those felt themselves to be inexpert were treated as low in power. Thus, it is reasonable to expect that higher subjective expertise will lead to higher levels of power, which is reflected in this study’s first hypothesis:

**H1**: Individuals with higher subjective expertise will feel more powerful than individuals with lower subjective expertise.

Prior studies have demonstrated that power can affect an individual’s behavior, cognition, and emotions. The *approach/inhibition theory of power* proposed by Keltner
and colleagues (2003) is one of the dominant paradigms utilized in power research. This model states that power could activate the behavioral approach system, whereas lack of power activates behavioral avoidance approach. Compared to low-power individuals, high-power individuals are believed to have more access to resources, rewards, and opportunities, which explains why they are more sensitive to rewards and resources but pay less attention to loss or punishment (Fast, Sivanathan, Mayer, & Galinsky, 2012). Inesi (2010) empirically demonstrated that power resulted in an estimation of more anticipated gain and less anticipated loss. Triggered by rewards and positive stimuli, the behavioral approach system is activated when an individual feels powerful (Guinote, 2017). On the other hand, low-power individuals indeed have fewer resources but are associated with loss and punishments. Hence, behavioral avoidance systems are activated among low-power individuals.

The approach/inhibition theory of power can be utilized to explain several behavioral differences between low- and high-power individuals. For instance, high-power individuals are found to make decisions and act more promptly (Galinsky, Gruenfeld, & Magee, 2003; Guinote, 2017), to sit closer to other participants in experiments (Smith & Bargh, 2008), to engage in more risky behaviors (Anderson & Galinsky, 2006), to more freely express their attitudes (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008), and even to speak more than low-power individuals (e.g., Aries, Gold, & Weigel, 1983; Dovidio et al., 1988; see Schmid Mast, 2002 for a review). A meta-analysis based on 40 articles examined the relationship between power (used interchangeably with “dominance” and “status” in the meta-analysis) and speaking time (Schmid Mast, 2002). Results demonstrated that participants with high power (including
manipulated power achieved by assigning different roles in experimental studies utilizing actual powers derived from real life positions and personality dominance) spoke for a longer amount of time than participants with low power.

Through two experimental studies, Anderson and Berdahl (2002) empirically demonstrated that increased power (measured both by personality dominance or manipulated by assigning roles) led to more expression of one’s true attitude, higher perception of rewards, and lower perception of threats. They also found that subjective sense of power mediates the effects of power on the abovementioned social behaviors. Similarly, through five experiments, Fast and colleagues (2012) revealed the mediator role that the subjective sense of power played between power and overconfident decision-making. The effect of power was eliminated when the subjective sense of power was hindered (e.g., making the access to power not salient, making participants in high work positions feel incompetent in their domain of power).

“Power has had bad press” in the literature, since it has several negative consequences, such as corruption, aggression, stereotyping, and prejudice (Turner, 2005, p. 17). For instance, people—both adults and children—who are in a higher-ranking position focused more on accumulating their own resources (e.g., money, food) but neglected others (Ashforth & Anand, 2003; Guinote, Cotzia, Sandhu, & Siwa, 2015). Increased power also leads to reply more on stereotype and to use more (implicit) prejudice against disadvantaged groups (Schmid & Amodio, 2017). Kipnis’s power-devaluation theory (Kipnis, 1972; Kipnis, Schmidt, Price, & Stitt, 1981) claimed that as power increases, individual’s evaluation of subordinates would decrease. Georgesen and Harris (1998) conducted a meta-analysis and confirmed the link between power and
negative evaluation of others. Fast and Chen (2009) examined the joint effect of position power and perceived competence (this term refers to the “perceptions of one’s ability to be influential”) on general aggression, and found that an interaction effect emerged between power and perceived competence. When individuals in a higher position feel low in competence, they are more likely to harm a subordinate, more willingly to expose a stranger to noise, and tend to be more aggressive in general. On the contrary, individuals in a lower position exhibit more aggression when they feel competent.

Similarly, Fast, Halevy, & Galinsky (2012) found that individuals displayed the most aggression and demeaning activities toward their partners when the individual had high power but low status (i.e., respect and admiration from others). Morand (2000) adopted politeness theory to study the effect of power on linguistic strategies used in hierarchical relations. A lab experiment was conducted in which role playing was utilized to manipulate power (i.e., individuals imaged they were in either a higher/lower position in an organizational hierarchy). It was found that compared to individuals high in power, those low in power used great amount of politeness (e.g., apologizing, explaining reasoning, emphasizing common ground, using words to diminish imposition) in their communications (Morand, 2000). Lammers and colleagues (2010) also found that powerful people tend to impose stricter moral standard on others and less strict standards on themselves.

The aforementioned behaviors reflect a self-serving bias and orientation of power holders (Guinote, 2017). According to the approach/inhibition theory of power, power activates the behavioral approach system, which features automatic cognition, goal-oriented and goal seeking (Keltner et al., 2003). When an individual is in power, one
salient goal is maintaining appropriate levels of power and feelings of entitlement through different methods such as exerting influence on others or obtaining more resources (Fast, Halevy, & Galinsky, 2012; Guinote, 2017). Corruption can be seen as one way to obtain more resources. Increased one-way communication time, as discussed before, is an example of attempting to exert influence on others. Utilizing demeaning language and behavior as well as devaluing others are also used for the purpose of maintaining power and exerting influence on others, according to the power-devaluation theory (Kipnips, 1972; Kipnis et al., 1981). One explanation is that demeaning and devaluation of others will protect one’s position and feelings of entitlement. The other explanation may have something to do with the negative bias, which states that people place more weight on negative information than positive information, and therefore negative information generally has stronger influence and persuasive effects on others (Mizerski, 1982).

In the context of eWOM, negative bias is also valid and has been confirmed by several empirical studies (e.g., Baek et al., 2012; Chevalier & Mayzlin, 2006; Clemons & Gao, 2008). It is possible that negative evaluation in eWOM is employed by power holders as a strategy to increase their influence on others. Regardless of the purpose, either maintaining a sense of power or exerting more influence on others, based on previous research it is supposed that power will lead to more negative WOM (in the format of number rating, number of positive and negative thoughts). This leads to the second hypothesis proposed in this research:

**H2a:** Sense of power will have a negative correlation with numeric rating.
**H2b:** Sense of power will have a negative correlation with number of positive thoughts.

**H2c:** Sense of power will have a positive correlation with number of negative thoughts.

**Dogmatic Cognition Style**

Dogmatism or closed-system (close-mindedness) refers to a closed cognitive organization of belief system (Rokeach, 1954). People who have higher levels of dogmatism are less likely to view incoming information and tolerate different attitudes, values, and beliefs, and are more likely to defend their own positions (Sasse, 2014). Several behavior characteristics are found to be associated with dogmatism, such as preoccupation with power and status, criticism of the out-groups, and an arrogant and dismissive communication style (Johnson, 2009). For example, Traut-Mattausch et al. (2015) found that during customer-employee interactions, if closed-mindedness is triggered (by presenting aggressive feedback that threatens the employee’s self-value), the employee will devalue the customer and his/her information and eventually provide a degrading service reaction.

Dogmatism has also been characterized by and associated with cognitive inflexibility, which has been found to be positively related to verbal aggressiveness and indirect interpersonal aggression (Chesebro & Martin, 2003; Martin, Anderson, & Thweatt, 1998; Martin, Staggers, & Anderson, 2011). According to Paddock and Swanson’s (1986) study on open- vs close-mindedness in problem solving, close-mindedness was found to lead to an inflexible approach, usually with a negative attitude. Therefore, it could be expected that when an individual believes that he/she possesses a
high level of knowledge and expertise, they are more likely to adopt dogmatic cognition (cognitive inflexibility) and generate more negative eWOM communication about another entity. Based on this, the following hypotheses are proposed:

**H3:** Individuals with higher subjective expertise will exert higher dogmatic cognition style than individuals with lower subjective expertise.

**H4a:** Dogmatic cognition style will have a negative relationship with numeric rating.

**H4b:** Dogmatic cognition style will have a negative relationship with number of positive thoughts.

**H4c:** Dogmatic cognition style will have a positive relationship with number of negative thoughts.

Besides the influence on cognition style, subjective expertise is also related to other perceptions, such as pride, which are related to giving negative evaluations.

**Pride**

Pride is a common emotional response to experiencing success, archiving personal goals, and/or possessing high social status (Ashton-James & Tracy, 2012). Individuals who believe themselves have better knowledge and expertise than others have higher levels of pride. As a multifaceted construct, pride can be divided into two components based on divergent outcomes: authentic pride (feeling of accomplishment and success) and hubristic pride (similar to arrogance and conceit) (Tracey & Robins, 2004; Cheng, Tracy, & Henrich, 2010). Authentic pride usually leads to higher self-esteem and promotes positive behaviors (Herrald & Tomaka, 2002). Conversely, hubristic pride is theoretically linked to narcissism, and associated with negative
behaviors such as aggression, hostility, relationship conflict, and others (Tracey & Robin, 2007). The difference between authentic pride and hubristic pride results from the casual attribution process. Authentic pride is derived from attributing success to “internal, unstable, and controllable cause” (e.g., I am an expert because I learned and practiced). Hubristic pride, on the contrary, is derived from attributing success to “internal, stable, uncontrollable causes” (e.g., I am an expert because I am always smart and excellent) and reflects a pride in the global self (Tracey & Robins, 2007). In other words, people experience hubristic pride if they make ability attributions, whereas people experience authentic pride if they make effort attributions. If an individual is led to feel that they have great expertise and knowledge (skill) at the moment, she/he is more likely to experience hubristic pride rather authentic pride. This leads to the fifth hypothesis of this study:

**H5:** Individuals with higher subjective expertise will have a stronger feeling of hubristic pride than individuals with lower subjective expertise.

Studies have found that dominance is usually adopted as a strategy by individuals experiencing hubristic pride through feelings of superiority and arrogance (Cheng et al. 2010). Hubristic pride serves as mental preparation for dominant behaviors such as exerting force and intimidating subordinates, and is therefore associated with aggression, hostility, and manipulation (Cheng et al. 2010; Tracey, Cheng, Robins, & Trzesniewski, 2009). Ashton-James and Tracy (2012) demonstrated the causal relationship between hubristic pride and negative evaluations. In their study, when hubristic pride was induced, participants showed a negative evaluation bias against minorities through reduced empathetic concerns, whereas when authentic pride was induced, these empathetic
concerns increased and evaluations were more positive. In the context of eWOM, a negative impact on eWOM valence is expected if individuals experience hubristic pride, leading to the hypotheses below:

**H6a:** Hubristic pride will have a negative relationship with numeric rating.

**H6b:** Hubristic pride will have a negative relationship with number of positive thoughts.

**H6c:** Hubristic pride will have a positive relationship with number of negative thoughts.

**Emotions**

The fourth possible mechanism proposed in this research is emotions. Adopting the classic test-plus-false-feedback, Campbell (2015) demonstrated that subjective expertise led to process enjoyment (i.e., the enjoyment resulting from critically evaluating the attributes of the product), which was statistically mediated by the generalized feelings of subjective expertise (see also Campbell & Ariely, 2015). Therefore, in this research, it is reasonable to expect more positive emotions induced by increased subjective expertise, as described in the hypothesis below:

**H7:** Individuals with higher subjective expertise will have more positive emotions than individuals with lower subjective expertise.

Empirical studies have demonstrated that emotions impact individual’s various judgments and decision-making directly or indirectly (e.g., Garg, Inman, & Mittal, 2005; Gohm & Clore, 2000; Shiv & Fedorikhin, 1999; Schwarz & Clore, 1983). For example, Schwarz and Clore (1983) conducted two experimental studies and demonstrated that the momentary emotions altered during the experiment could influence the participant’s
judgment of well-being via two mechanisms. On one hand, the momentary emotions induced by task or environmental factors (e.g., the weather) were considered information relevant to the current judgment/decision and taken into consideration. This explanatory approach was later known as “Affect as Information” (Clore, Gasper, & Garvin, 2001). On the other hand, emotions could serve a directive function that directed one’s attention to certain classes of information as an attempt to determine the plausible cause for such feelings (Schwarz & Clore, 1983).

Regarding the influence of emotions on communication behaviors, it was discovered in a recent field experiment that emotions significantly impact an individual’s likelihood of engaging in online trolling behavior (i.e., “behavior that falls outside acceptable bounds defined by those communities,” such as making malicious comments and online bullying) in a new discussion community (Cheng, Bernstein, Danescu-Niculescu-Mizil, & Leskovec, 2017). As previously mentioned, anxiety or dissonance reduction is among the various motives of engaging positive and/or negative WOM both online and off (Hennig-Thurau et al., 2004; Sundaram et al., 1998). In other words, consumers consciously utilize eWOM as a method to reduce negative emotions such as anger, anxiety and/or frustration (Engel et al., 1993; Sundaram et al., 1998). For the purposes of this research, it is reasonable to expect that emotions induced by subjective expertise would influence the valence of eWOM communication, leading to the hypotheses below:

**H8a:** Emotions will have a positive relationship with numeric rating.

**H8b:** Emotions will have a positive relationship with number of positive thoughts.
H8c: Emotions will have a negative relationship with number of negative thoughts.

**Anonymity and eWOM Communication**

The current study investigates the influence of subjective expertise on eWOM behaviors as well as the mechanisms of such influence. Two moderators—anonymity and audience size—were selected because both reflect the distinctive features of eWOM communication compared to traditional WOM communication and could potentially influence an individual’s eWOM behavior (Berger, 2014).

Anonymity is one of the most salient differences between computer-mediated communication (CMC) and face-to-face communication (Christie & Dill, 2016). Traditional WOM communication usually occurs along strong ties, such as between friends and families, via face-to-face communication. Alternatively, eWOM communication via the Internet can be written by either strangers or acquaintances, from an anonymous source or from a source-revealing identity. According to Keipi, Oksanen, and Rasanen (2015), there are three levels of online anonymity: visual anonymity, pseudonymity, and full anonymity. Visual anonymity refers to the situation in which the individual’s physical characteristic are hidden even they are known to each other, and no direct visual feedback is received. Internet users experience such anonymity on a regular basis, which is why visual anonymity is considered the most common level of anonymity (Christie & Dill, 2016; Keipi et al., 2015). Pseudonymity is related to the creation and use of username (rather than real name), avatars, or other social profiles for a social purpose during online conversation. Full anonymity refers to situations “where interactions result in no reputation effects and where users remain unknowable after interaction has
concluded,” and no long-term username or pseudonym is adopted (Keipi et al., 2015, p. 719). Depending on the features of the eWOM platform, levels of anonymity vary. For example, sharing consumption-related opinions and experiences through non-anonymous social network sites (such as Facebook) usually involves visual anonymity, whereas sharing via a bulletin board system, an online shopping venue (e.g., Amazon.com), or a review website (such as epinions.com, yelp.com) is more likely to involve full anonymity.

The social identity deindividuation (SIDE) model has been frequently adopted to investigate the effects of anonymity on individual behavior via CMC (Reicher, Spears, & Postmes, 1995; Sassenberg & Kreutz, 2002; Spears & Lea, 1994). The SIDE model was developed based on deindividuation theory (Christie & Dill, 2016; Reicher, Spears, & Postmes, 1995). Long before the advance of CMC, Le Bon (1897) proposed crowd psychology, in which individuals lose their own identities while gathering together in a crowd, which makes them “feel, think, and act in a manner quite different from that in which each individual of them would feel think and act were he in a state of isolation” (p. 6). Zimbardo (1969) proposed several antecedents of deindividuation, such as anonymity, arousal, and sensory overload. Anonymity and other antecedents promote deindividuation by minimizing both self-observation and self-evaluation, as well as concerns for social evaluation (Reicher et al., 1995).

As an extension of Zimbardo’s deindividuation theory and social identity theory (Tajfel & Turner, 1986), Reicher, Spears and Postmes (1995) developed the SIDE model to explain the effect of anonymity in the context of CMC. The SIDE model concerns two types of in-group anonymity: 1) whether the self is anonymous or identifiable to other members; 2) whether other members are anonymous to the self (Sassenberg & Postmes,
The former situation impacts the possibility of perceiving other members in the group (the cognitive aspect of SIDE), whereas the latter alters the level of public self-awareness and the possibility of being perceived by others (the strategic aspect of SIDE) (Sassenberg & Kreutz, 2002). When identifiable, one’s public self-awareness is enhanced, which draws more attentions to social norms (Sassenberg & Kreutz, 2002).

The strategic aspect of SIDE has been empirically supported in several studies (e.g., Barreto & Ellemers, 2000; Douglas & McGarty, 2001; Reicher et al., 1995). For example, Barreto and Ellemers (2000) found that when identifiable to other people, individuals tend to be more responsive to norms than when they are anonymous. These results of the strategic aspect of the SIDE model align with the reduced social cues theory (Kiesler, Siegel, & McGuire, 1984; Kiesler & Sproull, 1992). This theory proposes that compared with face-to-face communication, CMC contains fewer social cues, which makes communicators feel distanced from and unknown to each other. Consequently, in the context of CMC, individuals reduce attention to social norms and impression management, and behave more in a more extreme manner and less in line with social norms (Kiesler, Siegel, & McGuire, 1984; Kiesler & Sproull, 1992; Sassenberg & Kreutz, 2002).

Based on the SIDE model and the reduced social cues theory, anonymity has the potential to influence one’s communication behavior in the context of eWOM. Many studies have been conducted to examine how anonymity influences the persuasiveness of eWOM communication from the angle of message receivers (audience). For message receivers, anonymous reviews are deemed less credible and thus less favorable compared to reviews including identifiable information (Forman, Ghose, & Wiesenfeld, 2008). For
message senders (reviewers), anonymity can provide protection and allow them to communicate without considering how they might be judged by others, which leads to reduced public self-awareness and accountability (Omernick & Sood, 2013; Rains, 2007; Sassenberg & Kreutz, 2002). While making negative evaluations toward another entity, anonymous senders can adhere to their original opinions without any social pressure. Individuals tend to be less negative when communicating under their real identity, due to impression management and self-enhancement motivations (Blain & Crocker, 1993).

Based on these findings, in this research a main effect of anonymity on WOM valence is proposed, where eWOM will be more negative when the reviewer is anonymous than when the reviewer is not anonymous. This is reflected in the following hypothesis:

**H9:** eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more negative when communicators remain anonymous than when they use their real identity.

In addition, if subjective expertise exerts negative impact on eWOM valence through a sense of power, dogmatic cognition styles, and/or hubristic pride, as proposed in H1-H6, this negative effect may be attenuated when reviewers (communicators) are asked to reveal their identities (compared to when senders retain anonymity). Based on this, the following hypothesis is proposed:

**H10:** There will be an interaction between anonymity and subjective expertise on eWOM valence: subjective expertise will lead to more negative eWOM (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) when communicators remain anonymous than when using their real identity.
However, if subjective expertise exerts a positive impact on eWOM valence through emotions, as proposed in H7 and H8, this positive effect may be strengthened when reviewers (communicators) are asked to reveal their identities (compared to when senders retain anonymity). Based on this, another hypothesis is proposed:

**H11:** There will be an interaction between anonymity and subjective expertise on eWOM valence: the positive effect of subjective expertise on eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more salient when communicators use their real identity than when they remain anonymous.

**Audience Size and eWOM Communication**

Communication occurs in the presence of an audience, either real or implied (Barasch & Berger, 2014). Some interactions are deemed to be narrowcasting (i.e., communicating with one or a few audience). Other interactions are considered to be broadcasting, which occurs with a large-size audience (Barasch & Berger, 2014). Traditional WOM usually happens in a private, one-to-one (or one-to-few) setting (Weisfeld-Spolter et al., 2014). The dispersion of each WOM message is narrow, and the audience size of WOM information is relatively small. Conversely, message senders using eWOM platforms can talk to either large audiences (i.e., on a popular or mainstream platform such as Yelp or Amazon) or small audiences (i.e., on a niche platform known to only a few people).

Audience size has the potential to influence an individual’s communication behavior (Berger, 2014). As suggested by Berger (2014), audience size can influence eWOM by impacting the motives of impression management, emotion regulation, and
persuading others. It is believed that people are less likely to share negative content with
the intent of casting themselves in a favorable light in broadcasting situations. However,
few empirical studies have been conducted on this topic. Results have been inconsistent
regarding how audience size influences eWOM communication. Some studies have
revealed that large audience sizes prompt the sharing of negative information, where
other studies have found the opposite result.

Zhang and Zhu (2011) conducted research about group size and individual
contribution level on Wikipedia in which a positive relationship was revealed. Goes, Lin,
and Yeung (2016) observed a similar effect in the context of eWOM communication.
They treated an eWOM platform as a special type of online community where audience
size was operationalized as the number of followers a user (content generator) possessed
on the platform. They found a positive effect of number of followers (audience size) on
the number of product reviews, while the marginal effect was decreasing. In other words,
content generators would contribute more reviews “with a larger online audience size”
(Goes et al., 2016, p. 225). However, when “the writer has already reached an ‘expert’
status,” the content generator is satisfied with this status and is less influenced by the
number of followers they have.

Goes and colleagues (2016) found a negative effect of number of followers
(audience size) on the overall valence of all ratings provided by a user. The marginal
effect again was decreasing. They explained that as a user receives more and more
followers, he/she is more likely to recognize a negative bias in eWOM communication,
where the negative reviews are usually associated with perceptions of being smart and
useful (Amabile, 1983; Moe & Trusov, 2011). To gain popularity, users write more
negative reviews with the aim of gaining more followers. This negative effect diminishes with increases numbers of followers, as the need to “act smart” declines.

Barasch and Berger (2013) examined the influence of audience size on WOM communication via six experiments. Participants in each experiment were tasked with sharing or writing WOM messages with either one other individual (small audience size) or a group of friends (large audience size). Results demonstrated that compared to small audience size, large audience size makes participants more self-focused, evinced by sharing or writing more self-enhancing content and less content that could potentially damage their images (e.g., avoiding negativity, reframing negative events). Small audience size led to higher other-focused motives; participants shared or wrote more useful content. Such effects have been found not to be limited to communication with friends, but also to extend to communication between strangers (Barasch & Berger, 2013).

Given the inconclusive study results mentioned above, two competing hypothesis are proposed in this research regarding the effect of audience size on eWOM valence:

**H12**: eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more negative with larger audience size than with smaller audience size.

**H13**: eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more positive with larger audience size than with small audience size.

This study also examined whether there is an interaction effect between audience size and subjective expertise on eWOM valence through various mechanisms. When using a popular review platform to communicate with a large audience, feelings of power,
hubristic pride or emotions induced by subjective expertise are enhanced, compared with delivering messages to small groups via a niche website with a smaller audience. Therefore, the effect of subjective expertise—either negative or positive—is expected to be stronger with a large-sized audience than with small-sized audience, leading to the following hypothesis:

**H14:** There will be an interaction between audience size and subjective expertise on eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts): The effect of subjective expertise will be stronger if the audience size is large than if the audience size is small.

It is not clear how audience size and anonymity could jointly influence the effect of subjective expertise on eWOM valence. Therefore, a research question regarding the three-way interaction effect was constructed:

**RQ2:** Is there a three-way interaction effect among subjective expertise, audience size, and anonymity on eWOM valence?

A summary of all proposed hypotheses is presented in Table 1.
CHAPTER 3 STUDY 1

Overview

The empirical study of the influence of subjective expertise on eWOM behaviors began with a field study and observational analysis of real-world eWOM behaviors on the popular consumer review website Yelp. By observing eWOM communication occurring in its natural environment, a field study could yield more accurate and valid results than other research designs (Wrench, Thomas-Maddox, Richmond, & McCroskey, 2008). Yelp was selected as the research context for several reasons. Founded in 2004, Yelp was originally a platform aimed at helping consumers find reliable local dentists, hair stylists, mechanics, and other businesses (Yelp, 2017a). Now, with over 135 million reviews generated by its users across 32 countries and with an average of 83 million visitors per month, Yelp has become the largest online review website focused on the restaurant industry (Parikh, Behnke, Vorvoreanu, Almanza, & Nelson, 2014; Yelp, 2017a).

Second, different from online shopping venues that provide eWOM opportunities (such as Amazon.com and Sephora.com), Yelp is a third-party review platform which benefits from genuine reviews and has been filtering and removing fake reviews for years (Mukherjee, Venkataraman, Liu, & Glance, 2013). Moreover, Yelp provides an expert-like badge—Elite status—to some users. According to Yelp’s official policy (Yelp, 2017b), the Yelp Elite badge is a yearly reward commending “a number of things, including well-written reviews, high quality tips, a detailed personal profile, an active voting and complimenting record, and a history of playing well with others.” The elite status is only valid from the nomination date until the last day of that calendar year (Yelp,
Rather than identified and rewarded by the review website, the Yelp Elite status is self-nominated (Yelp, 2017b). In other words, the Yelp Elite badge does not necessarily demonstrate an individual user’s level of objective expertise, but rather one’s expectation and subjective judgment of his/her own expertise (i.e., subjective expertise). Therefore, Yelp was a suitable research context for this study.

**Sampling Procedure and Data Collection**

In this study, the data was collected utilizing a web crawling package implemented in R programming language. In total, 39,091 reviews (in the format of numeric rating) generated by 470 Yelp users were selected and collected from late August to September 2016. The 470 Yelp users were first identified from reviews of 12 randomly selected restaurants in 12 different cities in the US. Then, user information on the profile page as well all reviews made by the chosen user were collected. The detailed sampling process is explained in the next paragraph.

Firstly, a random zip code generator was utilized to search for a random sample of restaurants. The 12 zip codes and 12 corresponding U.S. cities were randomly selected, as presented in Table 2. Second, making use of Yelp’s search function, one zip code was entered each time to search for all restaurants listed on Yelp near that city. The number of restaurants near each city/zip code varied, ranging from 60 (in Marysville, OH 43040) to 2,220 (in Deland, FL 32720). The 12 searches in total yielded a poll of 8,386 restaurants. Third, during each of the 12 searches, one restaurant was generated using a random number generator (https://www.random.org/). In practice, the process resembled the following: A search of restaurants in Englewood, NJ 07631 yielded 562 results. Each restaurant was given an ID (ranging from 1 to 562) based on Yelp’s recommendation
system algorithm. Then, a random number between 1 and 562 (e.g., 228) was generated after defining the minimum and maximum value in the random number generator. GW Grill (https://www.yelp.com/biz/gw-grill-fort-lee?search_key=77936) as the 228th restaurant in the search result was selected. Twelve restaurants were randomly selected after 12 searches. Their names as well as links to their Yelp pages are presented in Table 2. Next, Yelp users (not including business owners) who had posted a review on any of the 12 restaurants were identified. Taking GW Grill as an example, 88 reviews were made by 88 different Yelp users during the time when the data was collected. In total, 470 Yelp users were identified in this step.

User information (such as the number of friends, number of reviews, current elite status and elite history, as well as the starting year of Yelp membership) listed on each user’s Yelp profile page was recorded. Afterward, for each of the 470 users, all reviews (in the format of numeric rating) posted since the beginning of the user’s Yelp membership were collected using a web crawling package named rvest on the platform of R. Crawling refers to “the process of identifying and fetching web pages, usually for indexing, by traversing the Web link graph from a set of starting points” (Bailey Craswell, and Hawking, 2003, p.4). In other words, it is a technique to collect data from a web page (Cothey, 2004). Developed by Hadley Wickham (Wickham, 2016), package rvest is a popular web crawling tool implemented in R language. Utilizing the web crawling technique, 39,091 reviews (numeric ratings) from 470 reviewers were collected within one week in September 2016.
Variables

*Ratings*: a rating at the review level represents the valence of a review in a numeric format. The current studies collected 39,091 ratings made by sampled users from 2006 to 2016. Utilizing a 5-point rating scale, ratings should all be integers, where “1” indicates an overall negative evaluation and unfavorable attitude toward a business and “5” indicates an overall positive evaluation and favorable attitude.

*Aggregated rating*: aggregated rating at the user level was computed by taking the average of all ratings made by one user. Each user had one aggregated rating, so in total, 470 aggregated ratings were created.

*Elite before* and *Years as elite*: on each user’s profile page, the history of the elite status was displayed. *Elite before* was a dichotomous variable describing whether the user had been rewarded an elite badge at any point in the past (“0” = “had never been an elite user” and “1” = “had been an elite user at least once”). If the user has been an elite squad before (*elite before* = 1), he/she was considered an elite user. In addition, a continuous variable *years as elite* was created for each user, by counting how many years in total the user/reviewer has been rewarded an elite badge.

*Number of reviews* and *number of friends* were identified and recorded from the user’s profile page, which reflected the amount of reviews and friends each user had in September 2016. *Years of membership* was computed by subtracting the year they become a Yelp user from 2016.

Results

Among the 39,091 sampled reviews (ratings), the majority were positive, giving the local business a rating of 4 (*n* = 14987, 38.3%) or 5 (*n* = 10787, 27.6%). About 20.9%
(n = 8155) demonstrated neutral attitudes toward the business (rating = 3), and only a few showed negative attitudes (for rating = 1: n = 1939, 5%; for rating = 2: n = 3233, 8.2%). About 67.1% (n = 26245) of all sampled reviews (ratings) were generated from elite users who have been rewarded an elite badge at least once before. In terms of the 470 sampled Yelp users, 85 (18.1%) users were considered elite users whereas 385 were non-elite users. On average, regardless of his/her elite status, a user had about 51 friends on Yelp (SD = 191.34), ranging from 0 to 3,554. Each user produced an average of 79.03 reviews (SD = 18.00), with a maximum value of 1475. Typically, they had been using Yelp for about 4.03 years (SD = 2.19). Their aggregated ratings had a mean of 3.75 and a standardized deviation of .75.

Next, a series of correlational analysis and t-tests were conducted to understand the relationships between review valence (rating and aggregated rating), elite status, and usage patterns. At the review level, rating was found to negatively correlate with number of reviews, \( r = -.030, p < .001 \) (see Table 3). Number of friends, on the other hand was positively correlated with rating, \( r = .049, p < .001 \). Years of membership, however, did not have impact on rating \( (p = .601) \). With regard to elite status, no significant difference was found between the ratings from elite users and ratings from non-elite members, \( t(21398.185) = -.615, p = .539 \). Results of correlational analysis demonstrated that rating (at the review level) was negatively correlated with years as elite, \( r = -.020, p < .001 \).

At the user level, t-tests were conducted to compare the differences between elite users and non-elite users. It was found that elite users have significantly more friends on Yelp \( (M = 201.84, SD = 407.51) \) than non-elite users \( (M = 17.82, SD = 47.44) \), \( t(84.503) = -4.16, p < .001 \). They also generated significantly more reviews \( (M = 291.86, SD = \)
Regarding the length of membership, elite user had been using Yelp for a longer time ($M = 5.78$, $SD = 2.00$) than non-elite users ($M = 3.65$, $SD = 2.04$), $t(468) = -8.72, p < .001$.

However, the $t$-test on aggregated rating yielded marginally significant results, $t(381.249) = -1.96, p = .05$. Aggregated ratings of elite users ($M = 3.83$, $SD = .29$) were higher than that of non-elite users ($M = 3.72$, $SD = .82$) at the .10 level. No significant correlations were identified between ratings and other usage factors based on 470 users. However, when correlational analysis was performed only on elite members ($n = 85$), a pattern, which is similar to correlational analysis at the review level, was revealed (see Table 4). For each elite user, his/her aggregated rating was negatively correlated with number of reviews ($r = -.265, p = .014$), years of membership ($r = -.270, p = .012$), and years as elite ($r = -.258, p = .017$).

**Discussion**

Study 1 served as a pilot study to explore whether reviewer’s subjective expertise (operationalized as elite status on Yelp) influenced eWOM valence (operationalized as numeric rating of each review and aggregated rating for each user) in real life. Results were consistent between analysis conducted at the review and user level. Although no significant difference in ratings at the review level and aggregated ratings at the user level was found between elite users and non-elite users, results revealed negative correlations between ratings (and aggregated ratings) and years as elite, as well as number of reviews and years of membership. In other words, elite users tend to give more negative reviews and lower ratings with increased active use of Yelp (i.e., post more reviews) for a longer time (i.e., longer year of membership), and with increased years of being an elite squad.
The results of Study 1 were in line with Zhang, Zhang, and Yang’s (2016) study. Zhang and colleagues conducted their study on a leading travel website in China Qunar.com, which imbedded the eWOM functions. The analysis based on 61,127 reviews demonstrated that user’s ratings was lower as increased reviewing expertise (i.e., indicated by the number of reviews produced by a user and recognized by the website as expert reviews).

Zhang et al.’s (2016) study and Study 1 of this research empirically support the idea that expertise status of users is related to the valence of eWOM communication. However, several questions remain unclear and cannot be answered by field studies. For example, it is unclear whether the expertise status rewarded by the website can denote one’s subjective expertise. In addition, the negative relationship discovered in these field studies cannot imply the causal effect of subjective expertise on eWOM valence. Even though a causal effect exists, the possible mechanisms of such effect remain unknown. Furthermore, these studies had a lack of control for factors such as personality traits, demographic characteristics, valence of consumption experience, and type of business. For these reasons, a second experiment was created and conducted based on Study 1 to solve the abovementioned problems.
CHAPTER 4. METHODS OF STUDY 2

Overview

To test the proposed hypotheses and answer research questions, a 2 (subjective expertise: high vs low) × 2 (anonymity vs real identity) × 2 (audience size: large vs small) between-subjects experiment was conducted online. The first independent variable, subjective expertise, was manipulated using the classic test-plus-false-feedback technique. Participants were asked to complete a review task by giving a numeric rating and generating a textual review based on given information about a mock Italian restaurant. They were told to generate a review using a review website with either a large volume of users (over two million) or a small volume (nearly two thousand), featuring real identity or anonymity.

Pretests

Five pretests were conducted to test the manipulation of subjective expertise and develop the stimuli (including the restaurant name, introduction, as well as photos) to be utilized in the formal experiment. All five pretests were carried out via Qualtrics, and participants were recruited through Amazon’s Mechanical Turk. The first pretest was conducted to determine the type of cuisine to be used in the formal experiment. The 10 most popular ethnic cuisines in the US (Chinese, French, Greek, Indian, Italian, Japanese, Mexican, Thai, Spanish, Mediterranean; see Mekouar, 2015) and American cuisine were examined. Participants (N = 26) indicated their familiarity with, interest in, experience with, and amount of knowledge they had about each type of cuisine. They also rated each cuisine for its affordability, perceived exoticness, and general favorability. Based on descriptive statistics, participants felt that they knew more about Italian cuisine (M = 4.72)
than other ethnic cuisines. They reported to have more experience ($M = 4.80$) and were more familiar ($M = 4.48$) with Italian cuisine. They did not consider Italian cuisine very exotic ($M = 3.52$), and rated it as medium level affordability ($M = 4.12$). They also displayed high interest in ($M = 5.32$) and a favorable attitude toward Italian cuisine ($M = 4.88$). For these reasons, Italian cuisine was eventually selected.

The second and third pretests were performed to develop and test the manipulation of subjective expertise. After consulting a native Italian scholar, 53 questions regarding Italian cuisine were originally selected from a website about international cuisine trivia (http://www.funtrivia.com/quizzes/hobbies/international_cuisine/italian_foods.html). In Pretest 2, 39 respondents answered all the questions about Italian cuisine and indicated their confidences in correctly answering each question. Taking both correctness (i.e., the percentile of participants who correctly answered each question) and confidence (i.e., the average confidence participants had in answering each question) into consideration, a final quiz containing 10 questions was developed from Pretest 2 (see Appendix A). It was also found in Pretest 2 that participants’ objective expertise (operationalized as the total number of questions a participant correctly answered) positively correlated with their experiences with Italian cuisine ($r = .429, p < .01$) and the level of favorability ($r = .575, p < .001$), but not with perceived knowledge level ($p > .05$). All three abovementioned variables were measured before the quiz.

In Pretest 3, participants ($N = 76$) first answered 10 questions (selected from Pretest 2) that claimed to assess their expertise in Italian cuisine. Immediately after completing the quiz, they were asked to report the perceived difficulty of the quiz and
their perceived performance (i.e., number questions they thought they answered correctly). Afterward, they received a randomly assigned expertise score. They were told they outperformed 92% (72%, 52%, or 32%) of the prior 413 participants recruited from Amazon Mechanical Turk who had taken the quiz.

Next, questions measuring subjective expertise (adapted from Liu, 2013 and Wong, 2010) and emotions (measured via the Self-Assessment Manikin (SAM) scale and Positive and Negative Affect (PANAS) scales) were presented. The results of data analysis demonstrate that manipulation of subjective expertise using a fake expertise score was successful ($F(3, 72) = 5.12, p = .003$). Specifically, participants who received manipulation of the 92th percentile felt themselves to know significantly more about Italian cuisine ($M = 4.75, SD = 1.08$) than those who receive manipulation of the 52th percentile ($M = 3.51, SD = 1.29, p = .005$) and the 32th percentile ($M = 3.57, SD = 1.23, p = .034$). No significant difference was found between four conditions regarding perceived difficulty ($F(3, 71) = 1.52, p = .216$), perceived performance ($F(3, 72) = .33, p = .806$), SAM emotional valence ($F(3, 72) = .601, p = .616$), SAM emotional arousal ($F(3, 72) = 1.69, p = .171$), SAM emotional dominance ($F(3, 71) = .37, p = .774$), positive affect ($F(3, 70) = .650, p = .586$), or negative affect ($F(3, 69) = 1.111, p = .351$). Based on these results, giving fake feedback of superior or inferior performance was utilized in a formal experiment to manipulate subjective expertise.

The last two pretests were conducted for restaurant stimuli design. Participants rated 9 possible names (e.g., La Fontana, Grissino Italian Restaurant, Giovanni's Bistro, Da Mario, Antonio's Italian Restaurant, Portofino Risiorante, Luna Blu, Angelica Italian Cuisine, La Trattoria), 7 versions of introductions (Pretest 4), and over 70 photos of
dishes and restaurant decor (Pretest 5) regarding the credibility, believability, affordability, authenticity, tastiness, favorability, and so on. Names were created with the help of the native Italian scholar. Introductions were originally collected from websites of several real Italian restaurants located in the south Florida area, and later condensed and revised. Any identifiable information was removed. Photos were collected from Yelp, which were uploaded by consumers and taken in different restaurants in Milan, Italy. In the end, based on descriptive statistics, name, introduction, and photos that were high in credibility/believability but received medium ratings in other attributes were selected. The final stimuli are presented in Appendix B.

**Procedure**

At the beginning of the formal experiment, participants were asked to read an informed consent document, which explained the general purpose of the experiment and the rights (including compensation information) expected as part of participating in the study. Participants were told that the purpose of the study was to understand how expertise influences consumers’ product evaluation and recommendation. They would be asked to finish a short expertise quiz on Italian cuisine, and then to evaluate an Italian restaurant and write a review based on the information they received. Additional questions assessing their personality, beliefs, and feelings would be posed during the study. Each participant received $1.50 as compensation for their efforts and time.

After the consent process, participants completed the first set of questions measuring their personality and experience with online reviews. To rule out alternative explanations, participants were also asked to indicate the level of favorability toward Italian cuisine and level of hunger they felt at the current moment.
Later, a short quiz of 10 questions utilized in Pretest 3 was given. Immediately after the quiz, participants indicated their perceived difficulty of the quiz. A screen displaying the message “The system is calculating the score for you...” was frozen for five seconds, to increase the believability of the expertise score given on the next page. Participants in high (low) expertise condition received results as follows (see Appendix C):

*Your Italian Cuisine Expertise Score: Your weighted average score is compared with those of the past 413 participants recruited from Amazon Mechanical Turk. Your Italian cuisine expertise score is in the 92th (52th) percentile, meaning that your scored higher than 92% (52%) of all people.*

A manipulation check was conducted immediately after the expertise score. Participants were asked to indicate their subjective expertise through four questions. A measure of current emotions was given.

After the manipulation check, all participants read short instructions about the restaurant evaluation task. Manipulations of anonymity (anonymous vs real identity) and audience size (large vs small) were included in the instructions. Participants were told that the restaurant to be evaluated was randomly selected from a review website named X. It was noted that the name of the website, as well as other identifiable information was omitted, to help participants arrive at an unbiased judgment. The website was described as either a popular review website, with over 2 million active users, and as one of the mainstream review platforms for food lovers in the US (*large audience size*), or as a niche review website with nearly 2,000 active users, and as a relatively new but important review platform for food lovers in the US (*small audience size*). Participants in the *real
identity condition were informed that users on website X tend to use their real personal information (i.e., profile photo, name, location, age, contact information); whereas in anonymous condition participants were informed that users on website X tend to remain anonymous and not use any real personal information (i.e., profile photo, name, location, age, contact information). For instance, a participant who was assigned the anonymous and large audience size condition received the instructions below:

*The restaurant to be evaluated is randomly selected from a POPULAR review website X. Users on website X tend to remain anonymous and NOT use any real personal information (i.e., profile photo, name, location, age, contact information). With over 2 million active users, website X is currently one of the mainstream review platforms for food lovers in the US. *To help you arrive at unbiased judgments, all identifiable information, such as name of the review website and restaurant address, is omitted.

Next, all participants read a paragraph of introduction to the mock restaurant, which was believed to have been provided by the restaurant owner. In addition to this, participants browsed eight photos depicting the décor and setting of the restaurant, as well as the food offered by the restaurant. Participants were told that all photos were retrieved from the review website and taken by ordinary consumers. The restaurant description and photos were included in Appendix B. After reading the information provided, participants were asked to imagine themselves as registered users of website X, and complete a review task by giving a numeric rating (on 5-point) and generating a review about the restaurant as if they were using website X.
After the review task, participants answered questions regarding their sense of power, dogmatic cognition, and pride. Participants then completed the last set of questions regarding their demographic information (including gender, age, ethnicity, education level, and income level). After all questions were completed, participants were given an opportunity to provide any comments or questions of their own. In the end, participants were debriefed.

**Measures**

*Personality* was assessed by the brief version of the Big Five Personality Inventory (BFI-10) adapted from Rammstedt and John (2007). Each of the five dimensions (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) was measured through two items.

The level of *favorability toward Italian cuisine* was measured via one item using 7-point semantic differential scales (“1” = “unfavorable”, and “7” = “favorable”). Similarly, *level of hunger* was measured by asking the participant how hungry they felt at the moment, where “1” means “not hungry at all” and “7” means “very hungry” (adopted from Moore and Konarth, 2015).

*Reliance on eWOM* scale was adapted from Thoumrungroje’s (2014) research, which contained six items (e.g., “*When I consider new restaurants, I read online reviews for advice,*” “*I usually read online reviews before I go to a restaurant*”) ($\alpha = .956$). Participants also indicated whether they had ever read and posted any reviews regarding restaurants online, and how many posts on average they write per month.

To measure *perceived difficulty* of the expertise quiz and *perceived performance*, two questions were asked before reporting the score to participants. First, participants
indicated how difficult the quiz was via a 7-point Likert scale, where 1 means “extremely easy” and 7 means “extremely difficult.” Then, they indicated how many questions out of the 10 they thought they answered correctly.

Subjective expertise on Italian cuisine was measured through four questions adapted from Liu (2013) and Wong (2010), such as “please indicate the extent to which you think you know about Italian cuisine” (α = .950).

Emotions were assessed via SAM (Bradley & Lang, 1994). Three questions depicted with graphic characters along a continuous 5-point semantic scale measured three dimensions of emotional response—valence, arousal, and dominance (Russell & Mehrabian, 1977).

The eight-item Sense of Power Scale (Anderson & Galinsky, 2006; Anderson, Oliver, & Keltner, 2012) was adopted to assess sense of power (α = .912). Sample items included “In my relationships with others, I can get people to listen to what I say” and “I think I have a great deal of power.”

Dogmatic cognition style was measured by Shearman and Levine’s (2006) Updated Dogmatism Scale, which includes 23 items, such as “People who disagree with me are usually wrong” and “I’m the type of person who questions authority (reverse coded)” (α = .795).

To measure hubristic pride, Tracy and Robins’s (2007) Authentic and Hubristic Pride Scales were adopted. Participants were asked to indicate the extent to which they generally feel this way using the words: arrogant, conceited, egotistical, pompous, smug, snobbish, stuck-up (1 = not at all, 5 = extremely, α = .927). Another seven words
accomplished, like I am achieving, confident, fulfilled, productive, like I have self-worth, successful) were used to measure authentic pride ($\alpha = .954$).

To assess the self-enhancement motivation associated with writing eWOM, three items were adapted from Dubois et al.’s (2016) research ($\alpha = .941$), such as “I write reviews online so that others would like me.”

The outcome variable—eWOM valence—was operationalized as 1) a numeric rating given by each participant, 2) the number of positive thoughts, and 3) the number of negative thoughts mentioned in each textual review. The number of positive and negative thoughts were further coded by two scholars. The procedure and results of the content analysis are depicted at the end of this chapter.

Full items of each scale are presented in Appendix D.

Data Collection and Participants

Data Collection

Questionnaires were developed on Qualtrics and then distributed via an anonymous link through Amazon Mechanical Turk (MTurk), which is the most well-known crowdsourcing website (Behrend, Sharel, Meade, & Wiebe, 2011). MTurk has been utilized as a recruiting tool by numerous academic studies in social sciences due to its ability to recruit participants rapidly and inexpensively (Buhrmester, Kwang, & Gosling, 2011). Researchers or businesses (known as requester) can outsource survey or other tasks (known as Human Intelligence tasks or HITs) to individuals who register as workers on MTurk (Amazon.com, 2010). Any adults who are or over 18 years old can register as a worker and participate in the HITs. Requesters can outsource a task to a larger number of workers and get the task completed in a short amount of time with
relatively low payment (ranging from US $0.01 to $13.00 per HIT, on average $1.38 per hour) (Behrend et al., 2011; Mason & Suri, 2012).

Although doubts have been raised regarding the validity and quality of the data collected from MTurk, several studies have demonstrated that MTurk is a reliable and viable recruiting platform (e.g., Buhrmester et al., 2011; Behrend et al., 2011). Results based on data collected via MTurk tend to be consistent with results of offline studies (Berinsky, Huber, & Lenz, 2012). Test-retest reliabilities were found to be even higher than with traditional methods (Buhrmester et al., 2011). Amazon Mechanical Turk participants have also been found to be a more diverse and representative pool than typical college samples or in-person convenience samples (Berinsky et al., 2012; Buhrmester et al., 2011).

Inclusion and Exclusion Criteria

A total sample of 368 participants were initially recruited from MTurk. Participants who had participated in pretests, skipped multiple questions, or spent less than 10 minutes on the study as a whole were excluded from further data analysis. To ensure quality, three attention-check questions were inserted into different phases of the questionnaire. In these questions, participants were explicitly instructed to select an assigned response as the answer to the current question. Participants who failed even one of these questions were excluded from further data analysis. At the end, a sample of 262 participants was retained with an effective rate of 71.2%.

Participants

In the final sample, 49.2% (n = 129) of the participants were females whereas 50.8% (n = 133) were males. The average age was 35.04 (SD = 10.43). The majority of
the participants identified themselves as white (72.9%), had a Bachelor’s degree as their highest educational degree (43.5%), and had an annual income of between $20,000-$59,999 (55.3%). More detailed demographic information is presented in Table 5.

**Content Analysis of Textual Reviews**

Textual reviews generated by the participants were further analyzed by two graduate students in the US. Two coders who were blind to experimental conditions completed the coding of 262 reviews. Following a study by Dubois, Bonezzi, and De Angelis (2016), each piece of review was coded for three characteristics: 1) total number of thoughts, 2) number of positive thoughts, and 3) number of negative thoughts. In addition, a fourth characteristic, number of words, was added. Number of words in each piece of review was counted by the Word Count function in Microsoft Word software and recorded by the coders.

The number of thoughts category refers to how many different factors (or reasons for specific opinions) were discussed in a review. Each piece of the review was read and analyzed sentence by sentence. The coder first determined whether, in a sentence, the participant discussed one or more factors related to the target restaurant. In total, 10 common factors emerged: 1) the quality of service and staff (including the owner, waitress/waiter, and chef); 2) the ingredients, taste, presentation, and/or portion size of food; 3) menu (e.g., the variety of choices, uniqueness of the food offered); 4) décor (including interior design, table, seating, wall, lighting, and so on); 5) environment/ambiance (using key words such as feeling comfortable, cozy, clean, relaxing, and so on); 6) price; 7) convenience of location; 8) overall impression; 9) recommendation decision; and 10) re-purchase decision. If, in a sentence, the participant
discussed only one of the abovementioned factors, then one thought was recorded. For example, a participant wrote “(t)he salad was served with large slices of cheese, which made me wonder how I was supposed to eat the thing,” which is an illustration of listing one thought in a sentence. If, in a sentence, the participant discussed multiple factors of the target restaurant, each factor counted as one thought. The sentence, “An authentic Italian restaurant with a traditional menu, not to mention the friendly staff” is an example of one sentence with two thoughts, in which two factors—menu and staff—were discussed. After identifying the number of thoughts in each sentence, the total number of thoughts in the review was counted by summing the number of factors mentioned in a review.

Each thought was coded for valence (positive, negative, or neutral). A positive thought represented a participant’s favorable attitude or judgment regarding one aspect of the target restaurant, such as “(t)he meals here are authentic Italian cuisine.” If a thought indicated the participant’s willingness to re-purchase or recommend the restaurant to others, it was also considered a positive thought. A negative thought reflected an overall unfavorable attitude, usually containing critiques toward the restaurant or the decision of not recommending the restaurant to others. A typical example of the negative thought is “Featured on their main introduction are dishes like ‘pizza’ and ‘spaghetti’ which are hardly specialties.” In a neutral thought, the participant either described a fact (e.g., “my husband ordered pizza,” “I’m not an expert when it comes to Italian food, but I know good food when I taste it”) or showed an overall neutral attitude toward the restaurant (e.g., “(s)o I have to give it a neutral rating”). Neutral thoughts were eliminated from
further analysis. At the end, the coders counted the total number of positive and negative thoughts mentioned in a review.

Regarding continuous variables, Banerjee, Capozzoli, McSweeney and Sinha (1999) suggest that correlation coefficient is appropriate for assessing the level of agreement between two coders and therefore could be utilized to indicate inter-coder reliability (see also Thomas & Tsai, 2012). Given the fact that all three variables—total number of thoughts, number of positive thoughts, and number of negative thoughts—were continuous, this study utilized correlation coefficient Pearson $r$. Two rounds of training and pretests were conducted. In Pretest 2, the agreements between two coders were respectively 0.916 (for total number of thoughts, $p < .001$), 0.957 (for number of positive thoughts, $p < .001$), and .718 (for number of negative thoughts, $p < .001$). Disagreement was resolved through discussions before formal coding, after which the two coders independently completed the remaining coding tasks.
CHAPTER 5. RESULTS OF STUDY 2

Descriptive Characteristics

On average, participants spent about 27.42 minutes ($SD = 12.36$) on completing the study. They had an overall favorable attitude toward Italian cuisine ($M = 6.11, SD = 1.11$), and felt a medium level of hunger ($M = 3.87, SD = 1.86$) while working on the study. Regarding their past experiences with online reviews, 98.1% ($n = 257$) of the participants had read online reviews regarding a restaurant before. About 43.1% of them ($n = 113$) had posted some reviews regarding a restaurant online, with an average of 2.16 reviews posted per month ($SD = 2.71$). No significant difference in eWOM valence (numeric rating, number of positive thoughts, and number of negative thoughts) was found between eWOM posters and non-posters (all $p > .05$). Participants also showed a relatively high level of reliance on eWOM with respect to restaurant choices ($M = 5.36, SD = 1.24$). Reliance on eWOM, however, was not correlated with any of the three indicators of eWOM valence (all $p > .05$).

The quiz that was used to assess participants’ expertise in Italian cuisine in general was perceived as somewhat difficult ($M = 5.27, SD = 1.35$). In terms of actual quiz performance, on average a participant correctly answered 6.02 ($SD = 1.91$) questions, which was very close to the self-estimated performance (i.e., the amount of questions they believed they answered correctly) ($M = 5.97, SD = 2.10$; Pearson $r = .473, p < .001$). As a proxy of objective expertise, actual performance (i.e., the amount of questions answered correctly) was not correlated with numeric ratings, number of positive thoughts, or number of negative thoughts (all $p > .05$).
In the review task, the numeric rating given to the mock restaurant by the participants had an average of 3.72 ($SD = .86$) on a 5-point scale. Regarding the reviews in the textual format, a participant on average generated 47.46 words ($SD = 32.12$). Each piece of review contained an average of 4.49 total thoughts ($SD = 2.13$), 3.29 positive thoughts ($SD = 2.13$) and .80 negative thoughts ($SD = 1.46$). In addition, total number of thoughts was positively correlated with length of the textual review (in words), $r = .805$, $p < .001$. Total number of thoughts was also positively correlated with number of positive thoughts ($r = .662$, $p < .001$) as well as number of negative thoughts ($r = .309$, $p < .001$). Numeric rating was positively correlated with number of positive thoughts ($r = .436$, $p < .001$), and negatively correlated with number of negative thoughts ($r = -.614$, $p < .001$).

**Manipulation Check**

To check whether the manipulation of subjective expertise was successful, an independent $t$-test was performed on a continuous subjective expertise index between the two expertise conditions. Results demonstrated that participants who received a higher expertise score ($M = 4.41$, $SD = 1.52$) felt they knew significantly more about Italian cuisine than those who received a relatively lower expertise score ($M = 3.88$, $SD = 1.06$), $t(224.184) = -3.212$, $p = .032$. $T$-tests were also conducted to compare the differences in perceived difficulty of the quiz between the two conditions. Participants assigned to the high expertise condition did not perceive the quiz as significantly less difficult ($M = 5.21$, $SD = 1.48$) than those in the low expertise condition ($M = 5.33$, $SD = 1.21$), $t(243.368) = .719$, $p = .473$. Similarly, participants assigned to the high subjective expertise condition did not think they had correctly answered more questions ($M = 6.00$, $SD = 2.20$) than those in the low subjective expertise condition ($M = 5.94$, $SD = 2.00$, $t(257) = -.230$, $p = .816$).
before receiving their expertise score. Regarding the actual performance (i.e., amount of questions actually answered correctly), there was also no significant different between two conditions (high subjective expertise condition: \( M = 5.90, SD = 1.91 \); low subjective expertise condition: \( M = 6.14, SD = 1.90 \)), \( t(260) = 1.032, p = .303 \).

To rule out alternative explanations such as the effects of hunger, a three-way Analysis of Variance (ANOVA) test was conducted with level of hunger as the dependent variable. Three independent variables (subjective expertise, anonymity, and audience size) were entered as fixed factors. No significant main effects or any interaction effect between/among the three independent variables were found (all \( ps > .05 \)) on level of hunger. In other words, there was no significant difference in hunger between conditions. In addition, correlational analysis confirmed that level of hunger was not correlated with numeric rating (\( p = .609 \)), number of positive thoughts (\( p = .184 \)), or number of negative thoughts (\( p = .555 \)).

### Hypotheses Testing

Hypotheses 1, 3, and 5 proposed that increased subjective expertise would lead to increased sense of power, increased dogmatic cognition style, and increased feeling of hubristic pride. To test these three hypotheses, a series of independent-samples \( t \)-tests and correlational analyses were performed. It was found that participants in the high subjective expertise condition felt a stronger sense of power (\( M = 4.95, SD = 1.05 \)) than those in low subjective expertise condition (\( M = 4.61, SD = 1.27 \)). The \( t \)-test is significant, \( t(254.836) = -2.286, p = .023 \). Further correlational analysis demonstrated a significant and positive relationship between subjective expertise (continuous measure) and sense of power (\( r = .189, p = .002 \)). Therefore, H1 was supported. A \( t \)-test found no significant
difference in dogmatic cognition style between low ($M=3.71, SD=.55$) and high subjective expertise conditions ($M=3.63, SD=.59$), $t(246)=-1.042, p=.298$.

However, correlational analysis demonstrated a significant and positive correlation between dogmatic cognition style and subjective expertise (continuous), $r = .215, p=.001$. Hence, H3 was partially supported. A similar pattern was found between hubristic pride and subjective expertise. When hubristic pride was entered as the outcome, the $t$-test was not statistically significant ($t(254) = .621, p=.535$). Correlational analysis, however, demonstrated a significant positive relationship between subjective expertise and hubristic pride ($r = .133, p=.033$). Thus, H5 was also partially supported.

To check whether expertise manipulation had an impact on emotions, three independent $t$-tests were conducted with valence, arousal, and dominance as dependent variables, respectively. Significant mean differences were found between two expertise conditions in valence ($t(258.290) = -4.821, p<.001$) and dominance ($t(258.505) = -4.131, p<.001$), but not in arousal ($t(258) = -1.005, p=.316$). Specifically, participants who received a higher expertise score felt significantly more pleasant ($M=3.83, SD = .77$) and more dominant/independent ($M=3.59, SD = .86$) than those who received a relatively lower expertise score (for valence: $M=3.38, SD = .86$; for dominance: $M=3.16, SD = .85$). Therefore, H7 was supported.

The first research question explored the effects of subjective expertise on eWOM valence. Hypotheses 9, 12 and 13 discussed the effects of two platform characteristics (anonymity and audience size) on eWOM valence. Hypotheses 10, 11 and 14 proposed two-way interactions, whereas the second research question in this study inquired as to the possibility of a three-way interaction. To test these hypotheses and answer these
research questions, a series of three-way analyses of covariance (ANCOVAs) were conducted. Numeric rating, number of positive thoughts, and number of negative thoughts were entered, respectively, as dependent variables. Subjective expertise, anonymity, and audience size were entered as independent variables. Prior research has demonstrated that two dimensions of personality (agreeableness and neuroticism) are related to eWOM valence (in the form of numeric ratings), therefore these dimensions should be entered as covariates (Tohidinia & Lurie, 2015, study 2).

Before running the ANCOVA test, assumption checks were performed to determine 1) whether the covariates had significant linear correlations with the dependent variable; and 2) whether the variances of dependent variable were homogenous across conditions. Regarding the first assumption, Pearson correlation coefficients were computed between the covariates and the dependent variables. Consistent with Tohidinia and Lurie’s (2015) study, agreeableness was found to be positively correlated with numeric rating ($r = .155, p = .014$). However, neuroticism was found to be only marginally correlated with numeric rating ($r = -.117, p = .063$), and hence was dropped in the ANCOVA for numeric rating. In this study, agreeableness and neuroticism were not correlated with number of positive thoughts or number of negative thoughts (all $ps > .05$). An ANOVA was adopted for number of positive thoughts and number of negative thoughts, since the assumption of significant linear correlation was not met.

To check the assumption of homogeneity, Levene’s test was requested for the ANCOVA on numeric rating. The null hypothesis of Levene’s test assumes variances are not different across all conditions. An insignificant $p$-value of Levene’s test fails to reject the null hypothesis and support the equal variance assumption. Levene’s test was found
not significant when numeric rating was entered as the dependent variable \( (p = .608) \), and therefore, both assumptions of ANCOVA were supported when numeric rating was entered as the dependent variable.

The results of the ANCOVA tests are presented in Table 6. The covariate agreeableness had a significant main effect on numeric rating \( (F(1, 240) = 5.596, p = .019, \text{Partial } \eta^2 = .023) \). Subjective expertise was also found to have a significant main effect on numeric rating, \( F(1, 240) = 5.849, p = .016, \text{Partial } \eta^2 = .024 \). The main effect of audience size \( (p = .516) \) or anonymity \( (p = .828) \) was not significant. A two-way interaction effect on numeric rating between anonymity and subjective expertise was statistically significant, \( F(1, 240) = 7.271, p = .008, \text{Partial } \eta^2 = .029 \).

Pairwise comparisons of simple effects were further performed on numeric rating after adjustment for agreeableness. As shown in Figure 1, for participants assigned to the real identity condition, high subjective expertise individuals tended to rate the restaurant in the stimuli more positively \( (M = 4.00) \) than low subjective expertise individuals \( (M = 3.44), F(1, 240) = 12.693, p < .001 \). However, for those assigned to the anonymous condition, no significant differences were found between participants with high subjective expertise \( (M = 3.68) \) and low subjective expertise \( (M = 3.71), F(1, 240) = .042, p = .838 \). Thus, H11a was supported whereas H10a was rejected. No three-way interaction was discovered on numeric rating, \( F(1, 240) = .525, p = .469 \).

Next, two ANOVAs were performed, with number of positive thoughts and number of negative thoughts as the dependent variables, respectively. No significant main effect or interaction effect was found on number of positive thoughts (see Table 6). When number of negative thoughts was entered as dependent variable, a marginally
significant main effect of subjective expertise was found, $F(1, 254) = 2.950, p = .087$,
Partial $\eta^2 = .011$. Participants assigned to the high subjective expertise condition
generated fewer negative thoughts in their reviews ($M = .64, SD = 1.28$) than participants
assigned to the low subjective expertise condition ($M = .95, SD = 1.60$). Consistent with
the ANCOVA for numeric rating, a two-way interaction between expertise and
anonymity was found, $F(1, 254) = 9.584, p = .002$, Partial $\eta^2 = .036$.

Through pairwise comparisons for simple effects, a similar pattern was revealed
(see Figure 2). Under the real identity condition, participants assigned to the low
subjective expertise condition ($M = 1.31, SD = 1.99$) generated significantly more
negative thoughts than those assigned to the high subjective expertise condition ($M = .40,$
$SD = .91$), $F(1,254) = 11.145, p = .001$. On the contrary, under the anonymous condition,
no significant difference in number of negative thoughts was found between low ($M = .67,$
$SD = 1.16$) and high subjective expertise participants ($M = .90, SD = 1.57$), $F(1,254)$
$= .989, p = .321$. Thus, H11c was supported and H10c was rejected. In addition, results of
an ANOVA revealed a significant two-way interaction between audience size and
subjective expertise on number of negative thoughts, $F(1, 254) = 4.858, p = .028$. It was
found that the difference in number of negative thoughts between low and high subjective
expertise participants were more salient under the large audience size condition than
under the small audience size condition (see Figure 3). Pairwise comparisons for simple
effects demonstrated that under the large audience size condition, low subjective
expertise participants ($M = 1.18, SD = 1.93$) generated significantly more negative
thoughts than high subjective expertise participants ($M = .51, SD = 1.08$). Such difference
was not statistically significant between low ($M = .68, SD = 1.05$) and high subjective
expertise participants ($M = .77$, $SD = 1.46$) under the small audience size condition. Thus, H14c was supported. No three-way interaction was discovered on number of negative thoughts, $F(1, 254) = .065, p = .798$.

The second set of hypotheses (H2a - H2c) proposed a negative relationship between sense of power and eWOM valence. Such a relationship could be further moderated by anonymity and audience size, as suggested by hypotheses 10, 11, and 14. To test these hypotheses, three linear regression models were conducted with numeric rating, number of positive thoughts, and number of negative thoughts as the outcome variable. Both anonymity (“1” = “anonymous” and “0” = “real identity”) and audience size (“1” = “large audience size” and “0” = “small audience size”) were dummy coded. Sense of power was entered after standardization. Three interaction terms (for two-way interaction between sense of power and anonymity and between sense of power and audience size, as well as three-way interaction among three predictors) were computed and entered. As previously mentioned, two dimensions of emotions—valence and dominance—were influenced by subjective expertise. It was also found that valence of emotions significantly correlated with eWOM valence (with numeric rating: $r = .436, p < .001$; with number of negative thoughts: $r = -.433, p < .001$). The dominance of emotions was also correlated with numeric rating ($r = .276, p < .001$) and with number of negative thoughts ($r = -.172, p = .005$). Therefore, these two dimensions of emotions were added into the model as control variables. Other control variables including gender (dummy coded, “0” = “male”, “1” = “female”), age, and personality (i.e., agreeableness) were entered simultaneously.
Results of three linear regression models were illustrated in Table 7. When numeric rating was deemed an outcome, the regression model was significant overall \((F(12, 233) = 3.337, p < .001)\), which explained about 14.7\% variability in outcome. Agreeableness was found to have positive influence on numeric rating \((\beta = .127, p = .049)\). The influence of emotions on numeric rating was significant (for valence of emotions: \(\beta = .169, p = .019\); for dominance of emotions: \(\beta = .206, p = .004\)) after controlling for other predictors. Anonymity, audience size, and sense of power were not significant predictors of numeric rating (all \(p s > .05\)). The two-way interaction effect between anonymity and sense of power on numeric rating was found to be significant \((\beta = .271, p = .043)\). As shown in Figure 4, under the real identity condition, numeric rating tended to decrease as sense of power increased. On the contrary, under the anonymous condition, numeric rating slightly increased as sense of power increased. However, this pattern was not replicated in models of number of positive thoughts and number of negative thoughts as outcomes (all \(p s > .05\)). Therefore, H2a was partially supported.

When number of positive thoughts \((p = .074)\) and number of negative thoughts \((p = .079)\) were entered as outcome variables, the overall regression models were marginally significant. Moreover, a two-way interaction between sense of power and audience size was found to be marginally significant on number of negative thoughts \((\beta = .239, p = .084)\). Although not statistically significant, the pattern of this two-way interaction (illustrated in Figure 5) was consistent with H14. The effect of sense of power on number of negative thoughts was more prominent under the large audience size condition than under the small audience size condition.
Next, six identical regression models were conducted. Three were used to investigate the effects of dogmatic cognition style on eWOM valence (i.e., numeric rating, number of positive thoughts, and number of negative thoughts) as proposed in H4, while the other three were to test the effects of hubristic pride on eWOM valence as proposed in H6. However, dogmatic cognition style as well as the interaction effects were not significant predictors to eWOM valence (all $p_s > .10$). Contrary to H6a, hubristic pride was found to have a significant but positive influence on numeric rating ($\beta = .199$, $p = .047$). No other meaningful predictors were revealed by the regression models.

Sense of power, dogmatic cognition style, hubristic pride, and emotions were proposed as the potential mechanisms between subjective expertise and eWOM valence. The moderation effects between subjective expertise, anonymity, and audience size were established in the above ANCOVA/ANOVA tests. In addition, the effect of sense of power on eWOM valence was proposed and empirically demonstrated to be influenced by anonymity and audience size. Therefore, a mediated moderation model is suggested by this study. To test this mediated moderation model, the bootstrapping method was adopted as suggested by Preacher and Hayes (2004).

Bootstrapping, which does not require the assumption of normal sampling distribution, is suitable for small-sized samples (Hayes, 2013; Preacher & Hayes, 2008). Bootstrapping analysis generates bias-corrected bootstrap confidence intervals for parameters rather than $p$ values (Hayes, 2013). In this study, the bootstrapping analysis was implemented through SPSS PROCESS Macro, a tool developed by Hayes (2013) that aims at analyzing mediation analysis and conditional process modeling. Among the 76 model templates recommended by Hayes (2013), Model 19 was selected as the best fit
for this study, and eWOM valence was entered as the outcome variable (Y). As eWOM valence was operationalized in three ways, three processing models were tested. In each model, subjective expertise (categorical) was entered as the predictor (X), and sense of power was entered as the mediator (M). Anonymity and audience size were then entered as the two moderators (V and Q). The conceptual and statistical models are presented in Figure 6 and Figure 7 respectively, and coefficients of the corresponding path is presented in Figure 8 and 9.

Results of the data analysis demonstrated that two out of three models were statistically significant (for numeric rating: \( p = .015 \); not significant for number of positive thoughts: \( p = .580 \); for number of negative thoughts: \( p = .003 \)), with a 9.29% variance in numeric rating and a 10.53% variance in number of negative thoughts explained by all predictors together.

When numeric rating was entered as the outcome variable, subjective expertise was found to be a significant and positive predictor (\( B = .60, t = 2.49, p = .013, 95\% \text{ CI } [.1256, 1.0713] \)). Anonymity was marginally significant, \( B = -1.15, t = -1.72, p = .087, 95\% \text{ CI } [-2.4760, .1685] \). Two-way interaction between sense of power and anonymity was found to be significant, \( B = .33, t = 2.32, p = .021, 95\% \text{ CI } [.0489, .6056] \). Two-way interaction between subjective expertise and anonymity, however, was marginally significant, \( B = - .57, t = -1.77, p = .078, 95\% \text{ CI } [-1.2049, .0641] \). In addition, results demonstrated that sense of power was a significant conditional mediator between subjective expertise and numeric rating (see Table 8). Specifically, the indirect effect of subjective expertise on numeric rating through sense of power was significant when the
participants believed they were using an anonymous review website with small-sized sample, parameter = .09, \( SE = .05 \), 95% CI [.0182, .2088].

When number of negative thoughts was entered as the outcome variable, audience size was found to have a significant indirect effect through sense of power, \( B = .51 \), \( t = 2.24 \), \( p = .026 \), 95% CI [.0620, .9597]. Moreover, audience size moderated the direct effect of subjective expertise on number of negative thoughts, \( B = -1.20 \), \( t = -2.25 \), \( p = .025 \), 95% CI \([-2.2585, -1.1509]\). In addition, a marginally significant two-way interaction between subjective expertise and anonymity was revealed, \( B = 1.00 \), \( t = 1.88 \), \( p = .062 \), 95% CI \([-0.0495, 2.0395]\). Results also demonstrated the conditional mediator role of sense of power between subjective expertise and number of negative thoughts (see Table 9). The indirect effect of subjective expertise on number of negative thoughts through sense of power was significant when the participants believed they were using an anonymous review website with a large-sized sample, parameter = .14, \( SE = .09 \), 95% CI [.0228, .3781]. To summarize, sense of power conditionally mediated the effect of subjective expertise on eWOM valence (numeric rating and number of negative thoughts) and this mediation effect depended on anonymity and audience size.

Next, another set of conditional process modeling analyses were conducted to test the conditional mediation role of emotions. However, it was found that audience size and anonymity did not moderate the effect of subjective expertise \((X)\) on emotions \((M)\), or the effect of emotions \((M)\) on eWOM valence \((Y)\). Therefore, three mediation analyses were conducted based on PROCESS Model 4, with numeric rating, number of positive thoughts, and number of negative thoughts as the outcome variable \((Y)\), respectively. Subjective expertise (categorical) was entered as predictor \((X)\). Three dimensions of
emotions (valence, arousal, and dominance) were entered simultaneously as mediators (Ms). When numeric rating was entered as the outcome variable, the mediation model was statistically significant ($p < .001$), with 10.8% of variability in the outcome explained by all predictors together. Results revealed that the indirect effect through two dimension of emotions—valence (parameter = .08, $SE = .04$, 95%CI [.0071, 1691]) and dominance (parameter = .08, $SE = .04$, 95%CI [.0171, 1772])—was significant. Similarly, when number of negative thoughts was entered as outcome, the mediation model was significant ($p < .05$, $R^2 = .041$). The indirect effect through dominance of emotions was significant, parameter = -.09, $SE = .05$, 95%CI [-.2115, -.0089]. The mediation model with number of positive thoughts, however, was not statistically significant ($p = .255$).
CHAPTER 6. DISCUSSION

Discussion

This study was aimed at exploring the influence of subjective expertise on eWOM behaviors as well as the underlying mechanisms of such influence. Only a few studies have been conducted to understand subjective expertise in the context of WOM communication. Sohn and Leckenby’s (2005) study investigated the effect of subjective expertise on WOM transmission, and demonstrated that increased subjective expertise led to a higher likelihood of spreading positive information. Wohnicki (2006) explored the joint effect of satisfaction and subjective expertise on eWOM generation, and found that subjective expertise resulted in a likelihood of generating more eWOM only when consumers were satisfied with consumption. Wong’s experimental studies (2010) examined the impact of subjective expertise on evaluation extremity, and demonstrated that high subjective expertise individuals gave more extreme product evaluations.

Building on these studies, this research focused on eWOM valence—in the form of numeric rating and number of positive/negative thoughts—as the consequence of altered subjective expertise. Two studies were conducted, including a field study analyzing real eWOM communication behaviors collected from Yelp and a between-subjects online experiment. Study 1 served as a pilot study, and investigated whether expertise status exerts influence on eWOM valence in real life. A total of 390,091 reviews (ratings) and 470 Yelp users were sampled, with data collected using the web crawling technique. A negative relationship between expertise status and eWOM valence was identified, which is consistent with results from Zhang and colleagues’ (2016) study.
To establish the causal link between subjective expertise and eWOM valence, and to explore its mechanisms, an online experiment was conducted with 262 effective participants recruited through MTurk. Participants were asked to review a mock restaurant by giving a numeric rating and writing down a textual review, instead of measuring their willingness or intention to generate and/or transmit an eWOM message. In addition, the effects of platform characteristics—anonymity and audience size—were taken into consideration. Both variables were manipulated by asking participants to imagine reviewing the mock restaurant on a website with either a large (or small) number of users, either anonymously or using their real identity.

Results of data analysis revealed a two-way interaction effect between subjective expertise and anonymity on eWOM valence (on numeric rating and number of negative thoughts). It was found that when participants imagined reviewing the mock restaurant using real identity, those with high subjective expertise gave a more positive rating and generated fewer negative thoughts compared to those with low subjective expertise. On the contrary, such difference was not salient while imagining reviewing the restaurant anonymously. Following Wong (2010), participants’ actual performance (i.e., the number of questions out of 10 in the quiz that were answered correctly) was considered a proxy for objective expertise. Objective expertise was found to be not related to eWOM valence or to interact with anonymity. Therefore, this study demonstrated that the differences in eWOM behaviors across conditions was a result of altering temporal subjective expertise rather than the influences of dispositional objective expertise. This finding could contribute to broader understandings of consumer expertise.
Four mechanisms—sense of power, dogmatic cognition, hubristic pride, and emotions—were proposed in this study. Based on the literature review, the first three mediators were projected to exert a negative impact on eWOM valence, whereas emotions were expected to positively influence eWOM valence. Results of data analysis rejected dogmatic cognition and hubristic pride as mechanisms of effects of subjective expertise, because dogmatic cognition style and hubristic pride did not influence eWOM valence as demonstrated by regression analysis. Surprisingly, subjective expertise (continuous) was significantly and positively correlated with authentic pride \( (r = .329, p < .001) \) as suggested by the data. In addition, authentic pride was found to correlate with numeric rating \( (r = .273, p < .001) \), number of positive thoughts \( (r = .139, p = .025) \), and number of negative thoughts \( (r = -.122, p = .050) \).

A possible reason for this unexpected result may be participants’ social desirability while reporting their feelings of pride. Adopting Tracy and Robins’s (2007) scale, hubristic pride was measured using a set of negatively valenced words (such as “arrogant” and “snobbish”), whereas authentic pride was measured through a set of positively valenced words or phrases (such as “confident” and “like I have self-worth”). It is highly possible that participants did not want to disclose their hubristic pride when measured explicitly because of a social desirability bias. This notion was supported by the floor effect of hubristic pride, which had a mean of 1.48 \( (SD = .73) \) and 50% of response of “1” on a 5-point scale.

Results of data analysis supported the idea that sense of power was an underlying mechanism of the effects of subjective expertise. It was found that sense of power enhanced with increased subjective expertise. Conditional process modeling
demonstrated a significant indirect effect of subjective expertise on eWOM valence through sense of power dependent on level of anonymity and audience size. In addition, a significant two-way interaction between sense of power and anonymity was discovered on numeric rating in regression models. When imagining reviewing using their real identity, participants’ rating decreased with an increased sense of power, after controlling for the effect of personality and emotions. This negative relationship was consistent with previous studies, in which increased sense of power led to less politeness in communications, more demeaning behaviors, and imposing stricter standards on others (Fast et al., 2012; Morand, 2000; Lammers et al., 2010).

However, under the anonymous condition, the proposed more salient negative effect of power on eWOM valence was not found. It is possible that anonymity online attenuated the perceived existence and presence of an audience. In other words, on a platform where communicators remain anonymous, users may feel they have no audience to whom they would display personal power and no target to demean, and therefore it is not meaningful to give harsh reviews. Another explanation is that in the context of eWOM, giving negative reviews does not always relate to negative impressions. During interpersonal interactions, giving negative comments may be labeled as demanding and unpleasant, whereas in the context of eWOM, giving negative reviews usually be viewed as smart, credible, and helpful (Amabile, 1983) which also leads to a good impression. Thus, eWOM communicators may not be afraid of giving negative reviews even when using their real identities. The effect of power on eWOM valence will not be attenuated under the real identity condition.
Although sense of power generated a negative influence on eWOM valence as proposed, an overall positive effect of subjective expertise on eWOM valence was revealed by ANOVA and ANCOVA tests. In other words, positive mediators also existed between subjective expertise and eWOM valence. As proposed in H7 and H8, emotions were believed to explain the positive influence of subjective expertise on eWOM valence. Using the SAM scale, two out of three dimensions of emotions were influenced by the manipulation of subjective expertise. Those who received better quiz performance (high subjective expertise) felt more pleasant and more dominant than the rest of participants. Moreover, in the regression models with power as predictors (see Table 7), valence and dominance of emotions were found to have positive influences on eWOM valence (i.e., positively related to numeric ratings and negatively related to number of negative reviews). Further mediation analysis confirmed the significant indirect effect of subjective expertise on eWOM valence through dominance of emotions and/or valence of emotions.

The impacts of emotions on judgment and decision-making have been well established in academic literature surrounding the topic (Garg et al., 2005; Gohm & Clore, 2000; Shiv & Fedorikhin, 1999; Schwarz & Clore, 1983). A recent study (Cheng et al., 2017) including a field experiment about online trolling behaviors found that emotions significantly increase an individual’s likelihood of communicating aggressively or in an anti-social manner. This study demonstrated that even in the context of eWOM communication, emotions still played an important role. Subjective expertise was found to promote positive emotions and feelings of dominance. Such results were in line with Campbell’s study that subjective expertise makes individuals engage more and enjoy the
process of evaluation tasks (Campbell, 2015; Campbell & Ariely, 2015). In Campbell’s study, process enjoyment induced by subjective expertise was independent from item/product enjoyment when measured explicitly. In this study, it appears that participants from Study 2 attributed positive feelings or process enjoyment to the mock restaurant, and produced more positive ratings and reviews.

Another potential positive mediator suggested by literature and prior studies is the self-enhancement motive. Previous research has demonstrated that the self-enhancement motive (measured by items such as “I write reviews online so that others would like me”) is an important reason why people share consumption-related experiences with others (De Angelis et al., 2012; Hennig-Thurau et al., 2004; Sundaram et al., 1998). In Sohn and Leckenby’s (2005) study, a similar motive—obtaining social approval—was proposed as the differences in motivations between expert and non-expert. However they did not incorporate the measure of this motive or provide empirical evidence to support such a mechanism. The results of this study demonstrate that the self-enhancement motive was not altered by subjective expertise manipulations ($p = .487$). Correlational analysis on the other hand support the positive relationship between the self-enhancement motive and subjective expertise (continuous variable) ($r = .251, p < .001$). However, analysis of regression models failed to demonstrate the influences of the self-enhancement motive on eWOM valence. Mediation analysis and conditional process modeling analysis rejected the indirect effect through a self-enhancement motive.

While Study 2 suggested an overall positive effect of subjective expertise on eWOM valence, it was not contradictory to the negative relationship discovered in Study 1. The different directions may be the result of the experience of being recognized as an
expert and the *expectation* of being recognized as an expert. The experience of being recognized as an expert usually activates certain psychological or physiological tendencies, whereas the expectation of being recognized as an expert usually activates schemas and scripts associated with how people should behave in the current position or status level (Rucker, Hu, & Galinsky, 2014). In Rucker and colleagues’ (2014) study on the effects of power on consumer behavior, differences were identified between the expectation of power and experience of power. For instance, when consumers focused on expectations of power, high-power consumers performed as having power, and showed a preference for status products. On the contrary, when they focused on experiences, high-power consumers showed less preference for status products than low-power consumers.

Applying this logic, it is possible that those users who had self-nominated for the Yelp elite squad focused more on the expectations of being an expert. Therefore, they would perform more like an “expert” by giving more negative reviews. By receiving high expertise scores, those who participated in Study 2 actually had and could focus on the experience of being recognized as an expert. Their subsequent eWOM behavior was mainly driven by activated psychological tendencies and feelings, rather than schemas of how an expert would perform while reviewing a restaurant.

This research also contributes to the literature of eWOM by incorporating platform characteristics into Study 2. Anonymity and audience size reflect the distinctive features of eWOM communication compared to traditional offline WOM communication. According to Berger (2014), both factors could exert influences on eWOM communication, but these have not attracted much attention from scholars. Audience size was proposed as a potential factor that could directly influence eWOM valence and
impact the relationship between subjective expertise and valence. A two-way interaction between subjective expertise and audience size on number of negative thoughts was discovered. Consistent with predictions, the effect of subjective expertise on eWOM valence was more salient when audience size was relatively large. In addition, anonymity in this study was found to moderate the effect of subjective expertise and sense of power on eWOM valence. Data suggested that anonymity attenuates rather than boosts the negative effect induced by sense of power, and potentially strengthens the positive effect induced by emotions. Future research is encouraged to test the explanations proposed earlier in this discussion, and deepen the understanding of anonymity in the context of eWOM communication from the communicator’s perspective.

**Limitations and Future Research**

It should be noted that this research has some limitations. First, in Study 1, several key variables, such as number of reviews and number of friends, were recorded at the time when data was collected. This snapshot can only reflect the user’s current status rather than their entire usage history. Certain data, such as number of friends a user had on the day each rating was made, was not available. It was unable to conduct time series analyses as well. Besides, the correlation between ratings and elite status at review level, although significant, was relatively low. Therefore, the results of Study 1 may be biased. Future studies should focus on overcoming this limitation and collecting more comprehensive data by searching for other effective data collection techniques or revising the current R crawling package.

Second, in Study 2, the manipulation of subjective expertise resulted in changes of participant’s emotions, which later exerted influence on their eWOM generation. It is
possible that subjective expertise and emotions are related, as subjective expertise could lead to higher consumption enjoyment (item enjoyment and process enjoyment) (Campbell, 2015). However, in some prior studies, emotions were not changed by altering subjective expertise (e.g., Atir et al., 2015; Burson, 2007). It is also possible that other techniques exist for manipulating subjective expertise without influencing participant’s emotions. Future studies should adopt other manipulation techniques (such as altering the difficultly level of the ostensive test, or priming participants with expert vs non-expert identity) or be conducted in other settings (e.g., lab experiment).

Third, while analyzing and coding the textual reviews generated by participants in Study 2, only the number of positive and negative thoughts mentioned in each review were counted. This method cannot reflect the intensity of review valence or the tone of the review. For example, regardless of whether a participant was using extremely negative language or only slightly negative language to describe one aspect of the mock restaurant, it was counted as one negative thought. This may bring certain limitations to the data analysis. Moreover, following Dubois et al.’s (2016) study, number of positive thoughts and number of negative thoughts were deemed as two dependent variables and entered into models separately. However, this method cannot control for the differences in total amount of thoughts mentioned in reviews. For instance, a review including ten thoughts with one being negative, is more negative than a review including two thoughts with one being negative. Future study could adopt different methods to operationalize review valence and re-test the effects discovered in this study.

Fourth, Study 2 was a one-time online experiment. Any effects discovered in this study need to be confirmed with replications. Moreover, based on the current experiment
design, it is impossible to claim any casual effects of the proposed mediators on eWOM valence. Further studies are needed to re-test and approve the causal links using different designs.

**Conclusion**

Being a reliable information source and significant drive to consumers’ purchase decisions, eWOM communication has received great attention from scholars in recent years. This study focused on a literature gap and aimed at exploring how consumer expertise, as an important factor in consumer psychology, influences eWOM communication. With a field study and an online experiment, this research examined the effects of subjective expertise on eWOM generation. Moreover, four underlying mechanisms were proposed and tested in Study 2. The findings of Study 2 demonstrated the (conditional) mediator role that power and emotions play between subjective expertise and eWOM valence, which deepens the understanding of consumer expertise. In addition, results demonstrated that anonymity and audience size, as two distinctive features of eWOM platforms, moderate the effect of subjective expertise. The findings contributed to eWOM literature by examining and empirically testing these two high potential, but often overlooked factors in eWOM communication (Berger, 2014). Scholars and website operators should understand that although using real identity or having a large number of users can increase perceived trustworthiness of eWOM content and its associated platform, it may bring other biases, such as the effects of subjective expertise on a user’s subsequent communication behavior.
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong></td>
<td>Individuals with higher subjective expertise will feel more powerful than individuals with lower subjective expertise.</td>
</tr>
<tr>
<td><strong>H2a</strong></td>
<td>Sense of power will have a negative correlation with numeric rating.</td>
</tr>
<tr>
<td><strong>H2b</strong></td>
<td>Sense of power will have a negative correlation with number of positive thoughts.</td>
</tr>
<tr>
<td><strong>H2c</strong></td>
<td>Sense of power will have a positive correlation with number of negative thoughts.</td>
</tr>
<tr>
<td><strong>H3</strong></td>
<td>Individuals with higher subjective expertise will exert higher dogmatic cognition style than individuals with lower subjective expertise.</td>
</tr>
<tr>
<td><strong>H4a</strong></td>
<td>Dogmatic cognition style will have a negative relationship with numeric rating.</td>
</tr>
<tr>
<td><strong>H4b</strong></td>
<td>Dogmatic cognition style will have a negative relationship with number of positive thoughts.</td>
</tr>
<tr>
<td><strong>H4c</strong></td>
<td>Dogmatic cognition style will have a positive relationship with number of negative thoughts.</td>
</tr>
<tr>
<td><strong>H5</strong></td>
<td>Individuals with higher subjective expertise will have a stronger feeling of hubristic pride than individuals with lower subjective expertise.</td>
</tr>
<tr>
<td><strong>H6a</strong></td>
<td>Hubristic pride will have a negative relationship with numeric rating.</td>
</tr>
<tr>
<td><strong>H6b</strong></td>
<td>Hubristic pride will have a negative relationship with number of positive thoughts.</td>
</tr>
<tr>
<td><strong>H6c</strong></td>
<td>Hubristic pride will have a positive relationship with number of negative thoughts.</td>
</tr>
<tr>
<td><strong>H7</strong></td>
<td>Individuals with higher subjective expertise will have more positive emotions than individuals with lower subjective expertise.</td>
</tr>
<tr>
<td><strong>H8a</strong></td>
<td>Emotions will have a positive relationship with numeric rating.</td>
</tr>
<tr>
<td><strong>H8b</strong></td>
<td>Emotions will have a positive relationship with number of positive thoughts.</td>
</tr>
<tr>
<td><strong>H8c</strong></td>
<td>Emotions will have a negative relationship with number of negative thoughts.</td>
</tr>
<tr>
<td><strong>H9</strong></td>
<td>eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more negative when communicators remain anonymous than using real-identity.</td>
</tr>
<tr>
<td><strong>H10</strong></td>
<td>There will be an interaction between anonymity and subjective expertise on eWOM valence: subjective expertise will lead to more negative eWOM (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) when communicators remain anonymous than using real-identity.</td>
</tr>
<tr>
<td><strong>H11</strong></td>
<td>There will be an interaction between anonymity and subjective expertise on eWOM valence: the positive effect of subjective expertise on eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more salient when communicators use real-identity than when remaining anonymous.</td>
</tr>
<tr>
<td><strong>H12</strong></td>
<td>eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more <em>negative</em> with larger audience size than that with small audience size.</td>
</tr>
<tr>
<td><strong>H13</strong></td>
<td>eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts) will be more <em>positive</em> with larger audience size than that with small audience size.</td>
</tr>
<tr>
<td><strong>H14</strong></td>
<td>There will be an interaction between audience size and subjective expertise on eWOM valence (in the form of a) numeric rating, b) number of positive thoughts, and c) number of negative thoughts): The effect of subjective expertise will be stronger if the audience size is large than if the audience size is small.</td>
</tr>
</tbody>
</table>
Table 2. Pilot Study Sampling Results

<table>
<thead>
<tr>
<th>#</th>
<th>Zip Code</th>
<th>City, State</th>
<th>Number of Restaurants Nearby</th>
<th>Random Number</th>
<th>Restaurant Name</th>
<th>Link to the Restaurant’s Yelp Page</th>
<th>Number of Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60451</td>
<td>New Lenox, IL</td>
<td>116</td>
<td>15</td>
<td>Jersey Mike’s Subs</td>
<td><a href="https://www.yelp.com/biz/jersey-mikes-sub-new-lenox?search_key=44858">https://www.yelp.com/biz/jersey-mikes-sub-new-lenox?search_key=44858</a></td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>47130</td>
<td>Jeffersonville, IN</td>
<td>1019</td>
<td>313</td>
<td>Aladdin’s Cafe</td>
<td><a href="https://www.yelp.com/biz/aladdins-cafe-new-albany?search_key=31874">https://www.yelp.com/biz/aladdins-cafe-new-albany?search_key=31874</a></td>
<td>54</td>
</tr>
<tr>
<td>6</td>
<td>32404</td>
<td>Panama City, FL</td>
<td>1136</td>
<td>240</td>
<td>Thai Chef Restaurant</td>
<td><a href="https://www.yelp.com/biz/thai-chef-restaurant-panama-city?search_key=46148">https://www.yelp.com/biz/thai-chef-restaurant-panama-city?search_key=46148</a></td>
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</tr>
<tr>
<td>7</td>
<td>20170</td>
<td>Herndon, VA</td>
<td>413</td>
<td>213</td>
<td>President’s Park</td>
<td><a href="https://www.yelp.com/biz/presidents-park-herndon?search_key=76328">https://www.yelp.com/biz/presidents-park-herndon?search_key=76328</a></td>
<td>4</td>
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<tr>
<td>8</td>
<td>63109</td>
<td>Saint Louis, MO</td>
<td>466</td>
<td>130</td>
<td>Big Sky Cafe</td>
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</tr>
<tr>
<td>9</td>
<td>10512</td>
<td>Carmel, NY</td>
<td>590</td>
<td>117</td>
<td>Post 22</td>
<td><a href="https://www.yelp.com/biz/post-22-patterson?search_key=13314">https://www.yelp.com/biz/post-22-patterson?search_key=13314</a></td>
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<tr>
<td>11</td>
<td>13090</td>
<td>Liverpool, NY</td>
<td>265</td>
<td>207</td>
<td>Nifty Fifties</td>
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<td>12</td>
<td>32720</td>
<td>Deland, FL</td>
<td>2220</td>
<td>908</td>
<td>San Jose’s</td>
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<td>97</td>
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Table 3. Results of Bivariate Correlational Analysis at Review Level (N = 39091)

<table>
<thead>
<tr>
<th></th>
<th>Rating</th>
<th>Number of Friends</th>
<th>Number of Reviews</th>
<th>Years of Membership</th>
<th>Years as Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Friends</td>
<td>.049***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Reviews</td>
<td>-.030***</td>
<td>.299***</td>
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<tr>
<td>Years of Membership</td>
<td>-.003</td>
<td>-.008</td>
<td>.063***</td>
<td></td>
<td></td>
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<tr>
<td>Years as Elite</td>
<td>-.020***</td>
<td>.089***</td>
<td>.390***</td>
<td>.091***</td>
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</tr>
</tbody>
</table>

Note: ***p < .001.
Table 4. Results of Bivariate Correlational Analysis at User Level (for elite users, n = 85)

<table>
<thead>
<tr>
<th></th>
<th>Aggregated Rating</th>
<th>Number of Friends</th>
<th>Number of Reviews</th>
<th>Years of Membership</th>
<th>Years as Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregated Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Reviews</td>
<td>.065</td>
<td></td>
<td>-.265*</td>
<td>.428***</td>
<td></td>
</tr>
<tr>
<td>Years of Membership</td>
<td></td>
<td></td>
<td>-.270*</td>
<td>-.038</td>
<td>.223*</td>
</tr>
<tr>
<td>Years as Elite</td>
<td>-.258*</td>
<td>.013</td>
<td>.466***</td>
<td>.387***</td>
<td></td>
</tr>
</tbody>
</table>

*Note: *p < .05, ***p < .001.
Table 5. Demographics and Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>35.04 (10.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>133</td>
<td>50.8</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>129</td>
<td>49.2</td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
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</tr>
<tr>
<td>White</td>
<td>191</td>
<td>72.9</td>
<td></td>
</tr>
<tr>
<td>African American</td>
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<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>20</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>37</td>
<td>14.1</td>
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</tr>
<tr>
<td>Other</td>
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<td>1.9</td>
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<tr>
<td><strong>Education</strong></td>
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<tr>
<td>High school graduate</td>
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<td></td>
</tr>
<tr>
<td>Some college but no degree</td>
<td>63</td>
<td>24.0</td>
<td></td>
</tr>
<tr>
<td>Associate degree in college (2-year)</td>
<td>31</td>
<td>11.8</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s degree in college (4-year)</td>
<td>114</td>
<td>43.5</td>
<td></td>
</tr>
<tr>
<td>Master’s degree</td>
<td>27</td>
<td>10.3</td>
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<tr>
<td>Doctoral degree</td>
<td>3</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Professional degree (JD, MD)</td>
<td>2</td>
<td>.8</td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Less than $10,000</td>
<td>12</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>25</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>42</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>35</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>28</td>
<td>10.7</td>
<td></td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>32</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>$60,000 to $69,999</td>
<td>21</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>$70,000 to $79,999</td>
<td>19</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>$80,000 to $89,999</td>
<td>17</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>$90,000 to $99,999</td>
<td>11</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>$100,000 to $149,999</td>
<td>16</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>$150,000 or more</td>
<td>4</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>
Table 6. Analysis Results of ANCOVA and ANOVAs

<table>
<thead>
<tr>
<th>Factors</th>
<th>Numeric rating</th>
<th>Number of positive thoughts</th>
<th>Number of negative thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td><strong>F</strong></td>
<td><strong>F</strong></td>
<td><strong>F</strong></td>
</tr>
<tr>
<td>Subjective expertise</td>
<td>5.849*</td>
<td>1.539</td>
<td>2.950</td>
</tr>
<tr>
<td>Anonymity</td>
<td>.047</td>
<td>.003</td>
<td>.038</td>
</tr>
<tr>
<td>Audience size</td>
<td>.423</td>
<td>.281</td>
<td>.279</td>
</tr>
<tr>
<td>Subjective expertise × Anonymity</td>
<td>7.271**</td>
<td>2.408</td>
<td>9.584**</td>
</tr>
<tr>
<td>Subjective expertise × Audience size</td>
<td>.239</td>
<td>.952</td>
<td>4.858*</td>
</tr>
<tr>
<td>Audience size × Anonymity</td>
<td>2.673</td>
<td>.940</td>
<td>.450</td>
</tr>
<tr>
<td>Subjective expertise × Anonymity × Audience size</td>
<td>.525</td>
<td>.132</td>
<td>.798</td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>5.596*</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .01$. 
Table 7. Analysis Results of Linear Regression Models

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Numeric rating</th>
<th>Number of positive thoughts</th>
<th>Number of negative thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>β</td>
<td>β</td>
</tr>
<tr>
<td>Anonymity</td>
<td>.071</td>
<td>-.084</td>
<td>-.010</td>
</tr>
<tr>
<td>Audience size</td>
<td>.076</td>
<td>-.044</td>
<td>.111</td>
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<tr>
<td>Sense of power</td>
<td>-.198</td>
<td>.058</td>
<td>.003</td>
</tr>
<tr>
<td>Sense of power × Anonymity</td>
<td>.271*</td>
<td>-.044</td>
<td>.003</td>
</tr>
<tr>
<td>Sense of power × Audience size</td>
<td>.034</td>
<td>-.110</td>
<td>.239†</td>
</tr>
<tr>
<td>Anonymity × Audience size</td>
<td>-.113</td>
<td>.110</td>
<td>-.084</td>
</tr>
<tr>
<td>Sense of power × Audience size</td>
<td>-.144</td>
<td>.174</td>
<td>-.161</td>
</tr>
<tr>
<td>Age</td>
<td>.074</td>
<td>.229***</td>
<td>-.060</td>
</tr>
<tr>
<td>Gender</td>
<td>.026</td>
<td>.027</td>
<td>-.011</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.127*</td>
<td>-.048</td>
<td>-.032</td>
</tr>
<tr>
<td>Valence of Emotions</td>
<td>.169*</td>
<td>.046</td>
<td>-.083</td>
</tr>
<tr>
<td>Dominance of Emotions</td>
<td>.206**</td>
<td>.041</td>
<td>-.177*</td>
</tr>
<tr>
<td>R-square</td>
<td>14.7</td>
<td>.076</td>
<td>.075</td>
</tr>
<tr>
<td>F</td>
<td>3.337***</td>
<td>1.670†</td>
<td>1.648†</td>
</tr>
</tbody>
</table>

Note: †p < .10, *p < .05, **p < .01, ***p < .001.
Table 8. Conditional indirect effects of subjective expertise (X) on numeric rating (Y) through sense of power (M) at different levels of moderators (anonymity and audience size)

<table>
<thead>
<tr>
<th>Anonymity</th>
<th>Size</th>
<th>Effect</th>
<th>Boot SE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real identity</td>
<td>Small</td>
<td>-.0313</td>
<td>.0443</td>
<td>-.1472</td>
<td>.0386</td>
</tr>
<tr>
<td>Real identity</td>
<td>Large</td>
<td>-.0213</td>
<td>.0318</td>
<td>-.1040</td>
<td>.0261</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Small</td>
<td>.0861</td>
<td>.0454</td>
<td>.0182</td>
<td>.2088</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Large</td>
<td>.0181</td>
<td>.0382</td>
<td>-.0422</td>
<td>.1137</td>
</tr>
</tbody>
</table>
Table 9. Conditional indirect effects of subjective expertise (X) on number of negative thoughts (Y) through sense of power (M) at different levels of moderators (anonymity and audience size)

<table>
<thead>
<tr>
<th>Anonymity</th>
<th>Audience</th>
<th>Effect</th>
<th>Boot SE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real identity</td>
<td>Small</td>
<td>-.0288</td>
<td>.0765</td>
<td>-.2341</td>
<td>.0873</td>
</tr>
<tr>
<td>Real identity</td>
<td>Large</td>
<td>.1399</td>
<td>.0866</td>
<td>.0228</td>
<td>.3781</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Small</td>
<td>-.0533</td>
<td>.0537</td>
<td>-.2023</td>
<td>.0207</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Large</td>
<td>-.0238</td>
<td>.0573</td>
<td>-.1826</td>
<td>.0645</td>
</tr>
</tbody>
</table>
Figure 1. Two-way Interaction Between Subjective Expertise and Anonymity on Numeric Rating
Figure 2. Two-way Interaction Between Subjective Expertise and Anonymity on Number of Negative Thoughts
Figure 3. Two-way Interaction Between Subjective Expertise and Audience Size on Number of Negative Thoughts
Figure 4. Two-way Interaction Between Sense of Power and Anonymity on Numeric Rating
Figure 5. Two-way Interaction Between Sense of Power and Audience size on Number of Negative Thoughts
Figure 6. Conceptual Representation of Conditional Process Model Depicting Mediated Moderation Models

- Subjective Expertise
- Sense of Power
- Anonymity
- Audience Size
- EWOM Valence

The diagram illustrates the relationship between subjective expertise, sense of power, anonymity, audience size, and EWOM valence in the context of mediated moderation models.
Figure 7. Statistical Representation of Conditional Process Model Depicting Mediated Moderation Models
Figure 8. Results from path analytic mediated moderation model using numeric rating as the outcome variable. Raw regression coefficients were presented for each path.

Note: * $p < .05$. 

Subjective Expertise (SE) → Sense of Power (SOP) → Numeric Rating

Anonymity → Sense of Power (SOP)

Audience Size (AS) → Sense of Power (SOP)

SubE × Anonymity

SubE × AS

Anonymity × AS

SubE × AS × Anonymity

SOP × Anonymity

SOP × AS

SOP × AS × Anonymity
Figure 9. Results from path analytic mediated moderation model using number of negative thoughts as the outcome variable. Raw regression coefficients were presented for each path.

Note: * \( p < .05 \).
References


Gasper, K., & Clore, G. L. (2000). Do you have to pay attention to your feelings to be influenced by them?. *Personality and Social Psychology Bulletin, 26*(6), 698-711. doi:10.1177/0146167200268005


Appendix A.

Italian Cuisine Expertise Quiz

1. What is the main ingredient in Risotto?
   A. Rice  
   B. Milk  
   C. Cheese  
   D. Eggs

2. What are grissini?
   A. thin sticks of crispy bread  
   B. a type of pasta  
   C. a type of salsiccie  
   D. a dolce or sweet

3. Sausage, or Salsicce, may be a hard, cured product like Salami or a fresh pork sausage made to be grilled or boiled. Which of the following is NOT a type of sausage?
   A. Luganega  
   B. Soppressata  
   C. Carpaccio  
   D. Zampone

4. Mozzarella, Parmigiano, ricotta, gorgonzola and provolone are all examples of what?
   A. Pasta  
   B. Cheese  
   C. Sauce  
   D. Antipasto

5. Insalata is the Italian word for "salad". One of the favorites is made from cubes of toasted bread (pane), ripe tomatoes, basil, salt, pepper, olive oil, and vinegar. It is also made with very firm textured bread that has been soaked, squeezed dry, and then crumbled and added to the other ingredients. What is this called?
   A. Panzanella  
   B. Giardiniera  
   C. Insalata Rinforzata  
   D. Insalata Russe
6. What will an antipasto NEVER include:
   A. pepperoni
   B. salumi
   C. pasta
   D. carciofi

7. Which of the following is the Italian name for ice cream?
   A. Granita
   B. Gelatina
   C. Gelato
   D. Grissini

8. What is the main ingredient of passata, often used in Italian cooking?
   A. Olive oil
   B. Tomato
   C. Onion
   D. Black olives

9. Which of the following is often a soup rather than a pasta?
   A. pappardelle
   B. pastasciutta
   C. penne all'arrabiata
   D. pasta e fagioli

10. 'Focaccia' is a type of:
    A. Cheese
    B. Bread
    C. Meat
    D. Pasta
Appendix B.

Mock Restaurant Stimuli

Introduction (provided by the restaurant owner):

ABOUT US

Here at Giovanni's Bistro, we serve exquisite Italian dishes that have been prepared using authentic recipes and flavors right from Bologna Italy! Whether you are hungry for a pizza or a spaghetti, we take you on a culinary adventure that will blow all your senses! We specialize in a variety of Italian dishes and have an assortment of irresistible wines to accompany your favorite meal.

Photos for Giovanni's Bistro (taken and uploaded by ordinary consumers):
Appendix C

Experiment Instruction and Manipulations

[To manipulate subjective expertise, participants were randomly assigned to one of the following two conditions]

**Your Italian Cuisine Expertise Score:**
Your weighted average score is compared with those of the past 413 participants recruited from Amazon Mechanical Turk. Your Italian cuisine expertise score is in the **92th** percentile, meaning that your scored higher than **92%** of all people.

**Your Italian Cuisine Expertise Score:**
Your weighted average score is compared with those of the past 413 participants recruited from Amazon Mechanical Turk. Your Italian cuisine expertise score is in the **52th** percentile, meaning that your scored higher than **52%** of all people.

[To manipulate anonymity and audience size, participants were randomly assigned to one of the following four conditions]

**[Real-identity and large audience size]**

In the next section, you will be asked to evaluate an Italian restaurant (i.e., give a numeric rating) and write a review based on given information. The restaurant to be evaluated is randomly selected from a POPULAR review website X. Users on website X tend to use their REAL personal information (i.e., profile photo, name, location, age, contact information). With over two million active users, website X is currently one of the mainstream review platforms for food lovers in the U.S.
*To help you arrive at unbiased judgements, all identifiable information, such as name of the review website and restaurant address, is omitted.*

……

Assuming that you are a registered user of website X, a POPULAR review platform with over two million active users. Like other users on website X, you reveal REAL personal information on X.
Please rate Giovanni's Bistro and write a review to be posted on website X.

**[Anonymous and large audience size]**

In the next section, you will be asked to evaluate an Italian restaurant (i.e., give a numeric rating) and write a review based on given information. The restaurant to be evaluated is randomly selected from a POPULAR review website X. Users on website X tend to remain anonymous and NOT use any real personal information (i.e., profile photo, name, location, age, contact information). With over two
million active users, website X is currently one of the mainstream review platforms for food lovers in the U.S.
*To help you arrive at unbiased judgements, all identifiable information, such as name of the review website and restaurant address, is omitted.

Assuming that you are a registered user of website X, a POPULAR review platform with over two million active users. Like other users on website X, you remain anonymous and do NOT reveal any REAL personal information. Please rate Giovanni's Bistro and write a review to be posted on website X.

[Real-identity and small audience size]

In the next section, you will be asked to evaluate an Italian restaurant (i.e., give a numeric rating) and write a review based on given information. The restaurant to be evaluated is randomly selected from a NICHE review website X. Users on website X tend to use their REAL personal information (i.e., profile photo, name, location, age, contact information). As a relatively new platform, website X has nearly two thousand active users but is an important review platform for food lovers in the U.S.
*To help you arrive at unbiased judgements, all identifiable information, such as name of the review website and restaurant address, is omitted.

Assuming that you are a registered user of website X, a NICHE review platform with nearly two thousand active users. Like other users on website X, you reveal REAL personal information on X. Please rate Giovanni's Bistro and write a review to be posted on website X.

[Anonymous and small audience size]

In the next section, you will be asked to evaluate an Italian restaurant (i.e., give a numeric rating) and write a review based on given information. The restaurant to be evaluated is randomly selected from a NICHE review website X. Users on website X tend to remain anonymous and NOT use any real personal information (i.e., profile photo, name, location, age, contact information). As a relatively new platform, website X has nearly two thousand active users but is an important review platform for food lovers in the U.S.
*To help you arrive at unbiased judgements, all identifiable information, such as name of the review website and restaurant address, is omitted.

Assuming that you are a registered user of website X, a NICHE review platform with nearly two thousand active users. Like other users on website X, you remain anonymous and do NOT reveal any REAL personal information. Please rate Giovanni's Bistro and write a review to be posted on website X.
Appendix D

Measurement Scales

**Big Five Personality Inventory (BFI-10):**
How well do the following statements describe your personality? (1 = "strongly disagree", 7 = "strongly agree")
I see myself as someone who …
1. … is reserved
2. … is generally trusting
3. … tends to be lazy
4. … is relaxed, handles stress well
5. … has few artistic interests
6. … is outgoing, sociable
7. … tends to find fault with others
8. … does a thorough job
9. … gets nervous easily
10. … has an active imagination

**Level of Favorability toward Italian Cuisine:**
Please indicate your level of FAVORABILITY of Italian cuisine in general:
Unfavorable 1 2 3 4 5 6 7 Favorable

**Level of Hunger:**
Please indicate HOW HUNGRY are you feeling right now:
Not hungry at all 1 2 3 4 5 6 7 Very hungry

**Reliance on eWOM:**
Please indicate to what extent you agree with each of the following statements (1 = "strongly disagree", 7 = "strongly agree"):
1. When I consider new restaurants, I read online reviews for advice.
2. I usually read online reviews before I go to a restaurant.
3. I like to get the opinions of other people online before I go to a restaurant.
4. I often read online reviews about which restaurants to go.
5. I feel more comfortable choosing restaurants when I have gotten opinions from other people online.
6. When choosing restaurants, others’ opinions online are important to me.

Have you ever READ any reviews regarding a restaurant on any website?
1. Yes; 2. No.

Have you ever POSTED any reviews regarding a restaurant on any website?
1. Yes; 2. No.
   (If yes) What is the average number of posts/reviews you make a month? Please insert a number: ______________
**Perceived difficulty of the quiz**
How difficult is this Italian Cuisine Expertise Quiz to you?

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Moderately easy</th>
<th>Slightly easy</th>
<th>Neither easy nor difficult</th>
<th>Slightly difficult</th>
<th>Moderately difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

**Perceived performance**
Out of the 10 questions above, how many questions do you think you have answered correctly? ______ (ranging from 0 to 10)

**Subjective expertise**
1. Please indicate the extent to which you think you know about Italian cuisine.
   - Not knowledgeable at all 1 2 3 4 5 6 7 Very knowledgeable
2. Please indicate how much expertise you think you have in Italian cuisine.
   - Not much expertise at all 1 2 3 4 5 6 7 A lot of expertise
3. Please indicate how much information you think you have about Italian cuisine.
   - Not much information at all 1 2 3 4 5 6 7 A lot of information
4. Please indicate the extent to which you think you understand Italian cuisine.
   - Not much understanding at all 1 2 3 4 5 6 7 A lot of understanding

**Emotions**
1. Please tell us how you feel right now:

   ![Emotion Scale]

2. Please tell us how you feel right now:

   ![Emotion Scale]

3. Please tell us how you feel right now:

   ![Emotion Scale]

**Numeric rating:**
Please give an overall rating to Giovanni's Bistro as you are evaluating a restaurant on website X:

🌟🌟🌟🌟🌟

**Sense of power**
Please indicate the extent to which you agree or disagree with the following statements (1= strongly disagree, 7=strongly agree):
In my relationship with others...
1. I can get people to listen to what I say.
2. My wishes do not carry much weight.
3. I can get others to do what I want.
4. Even if I voice them, my views have little sway.
5. I think I have a great deal of power.
6. My ideas and opinions are often ignored.
7. Even when I try, I am not able to get my way.
8. If I want to, I get to make the decisions.

**Dogmatic cognition style**
Please indicate the extent to which you agree or disagree with the following statements (1= strongly disagree, 7=strongly agree):
1. There is a clear line between what is right and what is wrong.
2. People who disagree with me are usually wrong.
3. Having multiple perspectives on an issue is usually desirable.
4. I’m the type of person who questions authority.
5. When I disagree with someone else, I think it is perfectly acceptable to agree to disagree.
6. I am confident in the correctness of my beliefs.
7. There is a single correct way to do most things.
8. People should respect authority.
9. I am a person who is strongly committed to my beliefs.
10. Diversity of opinion and background is valuable in any group or organization.
11. It is important to be open to different points of view.
12. I am a “my way or the highway” type of person.
13. I will not compromise of the things that are really important to me.
14. There are often many different acceptable ways to solve a problem.
15. I consider myself to be very open-minded.
16. Few things in life are truly black and white; instead I see gray areas on most topics.
17. Different points of views should be encouraged.
18. People who are in a position of authority have the right to tell others what to do.
19. People who are very different from us can be dangerous.
20. I am “set in my ways.”
21. When I make a decision, I stick with it.
22. It is usually wise to seek out expert opinions before making decisions.
23. I like having a set routine.

**Hubristic pride** (1, 3, 6, 8, 10, 11, 12) and **authentic pride** (2, 4, 5, 7, 9, 13, 14)
The following scale consists of a number of words that describe different feelings. Please indicate to what extent you feel this way right now, that is, at the present moment (1 = not at all, 5 = extremely).

- Arrogant (1)
- Accomplished (2)
- Conceited (3)
- Like I have self-worth (4)
- Like I am achieving (5)
- Egotistical (6)
- Confident (7)
- Pompous (8)
- Productive (9)
- Smug (10)
- Snobbish (11)
- Stuck-up (12)
- Fulfilled (13)
- Successful (14)

**Self-enhancement motive:**
Please indicate the extent to which you agree or disagree with the following statements (1 = strongly disagree, 7 = strongly agree):

I write reviews online...

1. ...so that others would like me.
2. ...to create a good impression about myself.
3. ...thinking it will have positive consequences on others’ attitudes toward me.