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THE EFFECT OF USER RATINGS ON PUBLIC OPINION PERCEPTION AND WILLINGNESS TO EXPRESS OPINIONS: THE THIRD-PERSON EFFECT AND SPIRAL OF SILENCE THEORY

By

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ABSTRACT

THE EFFECT OF USER RATINGS ON PUBLIC OPINION PERCEPTION AND WILLINGNESS TO EXPRESS OPINIONS: THE THIRD-PERSON EFFECT AND SPIRAL OF SILENCE THEROY

By

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The current study examined the effects of volume and valence of user ratings of a movie on individuals' perceived effects of user ratings on self and on others, and also on individuals' willingness to express their opinions on-line. For study 1, undergraduate participants ($N = 403$) were randomly assigned to one of 2 (volume: low *versus* high) × 2 (valence: positive *versus* negative) conditions. For study 2, undergraduate participants ($N = 243$) were randomly assigned to one of 4 (volume: low, high, super high, and mega high) × 2 (valence: positive and negative) conditions. The participants reported the extent to which they believed the user ratings would influence themselves and others, indicated their ratings and their estimated ratings of others for motives before and after being exposed to the user ratings, and reported their willingness to express their opinions. The findings showed that people believe that others are more affected by user ratings than themselves. As individuals predicted a greater effect of user ratings on others, they were more willing to express opinions. Interpretations of these and others results and implications for public opinion on the Internet are discussed.

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TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

People often seek out others' experiences as information sources before making decisions to purchase or consume products and service. Word of mouth (WOM), which has traditionally referred to interpersonal communication among consumers in order to exchange choice-related information, opinions, and evaluations of products and services (Arndt, 1967; Anderson, 1998; Ozcan, 2004), often serves as an important information source that affects people's purchasing decisions and behaviors. WOM also has been examined for its influence on individuals' movie selections, and WOM is not only a phenomenon that occurs in interpersonal settings, such as face-to-face, but also and more increasingly occurs on the Internet. One of the many functions of the Internet is providing handier access to and easier participation in WOM for movies; people can easily see others' opinions and/or actively express their opinions on the Internet. Many Internet sites provide a place where users can post their ratings and comments about movies and become a part of WOM. Online WOM is of interest to both scholars and marketing practitioners regarding understanding why and how people participate in WOM.

Online WOM has several interesting features. First, WOM on the Internet comes from anonymous others, not from one's own social networks and interpersonal relationships. Second, WOM on the Internet often provides information on the number of others who like or dislike certain movies, and those numbers tend to be much larger than those available in offline WOM (i.e., the

number of people in one's social networks). Third, users can see the results of ongoing polls about certain movies on a daily basis, if they choose to do so. Fourth, participation in WOM on the Internet is completely voluntary and may reflect the interactive aspects of individuals' expressing their opinions affecting and being affected by public opinions (Mutz, 1989). That is, individuals' willingnesses to express their opinions can be affected by the existing public opinions on the Internet site, and, at the same time, individuals may also want to affect public opinion by expressing their opinions.

The current study focuses on the relationship between individuals' perceptions of public opinions and their willingnesses to express their own opinions to be a part of online WOM. User ratings on the Internet have both aspects of WOM and public opinion polls on the Internet. Therefore, the purpose of this paper is to explore the mechanism of user rating of movies by focusing on its role as public opinion poll. People have a tendency to overestimate media effect on others and underestimate media effect on them (Davison, 1983). The main reason for people's behavior change is not necessarily due to the impact of persuasive media messages but mostly due to their misperception of media impact on others. Based on this, individuals may perceive that others, compared to themselves, are more influenced by the user rating and that this discrepancy may motivate individuals to express their opinions. According to Noelle-Neumann (1974), people are less willing to express their opinions publicly when they perceive the opinion climate to be against their own viewpoints. People's perceptions of public opinion climate are

an essential element of individual opinion expression. Based on the Third-Person Effect (TPE) and Spiral of Silence theory, this paper will advance hypotheses and research questions concerning the mechanism of opinion expression as a part of WOM on the Internet.

LITERATURE REVIEW

The effect of User Ratings on Audience's Movie Selection

As motion pictures are experienced goods to be enjoyed by audiences rather than to fulfill economic or basic needs of consumers, a traditional information seeking framework does not fit movie audience's movie search behaviors (Eliashberg & Shugan, 1997). Burzynski and Bayer (1977) demonstrated that people who are exposed to positive information about movies show higher appreciation of movies than those who are exposed to negative prior informational cues. In addition, information from other ordinary people who have watched the movie can be perceived as trustworthy as, if not more than, information from mass media (Austin, 1982).

The traditional form of WOM is from a type of interpersonal source and is defined as the evaluations and comments about a movie from other movie-goers (Faber & O'Guinn, 1984). In general, WOM as interpersonal information source is distinguished from information from experts and can be seen as credible as, if not more credible than, advertisements and critics' reviews because it could be a sign of other peoples' tastes and it is easily accessible through social networks (Faber & O'Guinn, 1984; Banerjee, 1992; Murray, 1991; Holbrook, 1999; Liu, 2006). Considering the rapidly expanding use of the Internet and diverse on-line communities as popular information sources, scholarly attention has also been paid to the effect of on-line WOM on people's movie selections. The Internet allows

people to easily share information with others (Liu, 2006), and various on-line communities make it possible for a single opinion to reach thousands of others (Dellarocas et al., 2004). Therefore, the domain of WOM has extended from interpersonal networks to the Internet, and the volume and valence of messages posted on various Internet sites could replace off-line interpersonal WOM. According to Dellarocas et al. (2004), there is an average of 689 user reviews per movie on the Internet, and these are as much a significant information source for movie selection as off-line interpersonal WOM.

WOM on the Internet takes various forms, ranging from users' specific comments to simple evaluations with numeric values. Many Internet sites allow their users to indicate numerical evaluation of movies and also to offer various lengths of review comments for each movie. Among them, user ratings as one form of WOM on the Internet have been more widely researched (Dellarocas et al., 2004; Duan et al., 2005; Liu, 2006) because numerical user ratings motivate users to become active contributors of WOM on the Internet by submitting their evaluation of movies with little effort (Dellarocas et al., 2004). Moreover, user ratings are similar to public opinion polls in that they show the volume and valence of public opinion about movies with numerical values or percentages at a glance, how many people like/dislike or have positive/negative attitudes toward movies.

Although many scholars examine WOM on the Internet as an extended form of off-line interpersonal WOM, the source of WOM on the Internet is different. The information available from WOM on the Internet comes from the

anonymous public, not from someone in a close interpersonal network. The influence power of WOM from interpersonal networks originates from closeness and similarities in the interpersonal relationship (Gode & Mayzlin, 2004). WOM from interpersonal works is perceived as credible information because it comes from someone whom individuals know and/or trust and/or from friends who have the similar tastes and preferences in movies. On the other hand, WOM on the Internet is more likely to come from anonymous others who are not necessarily in an individual's interpersonal networks. However, WOM on the Internet, especially numerical user rating, can still be perceived as credible because it may be seen as the public opinion climate about movies. Therefore, user rating as one form of WOM on the Internet has both the characteristics of WOM and of public opinion polls.

User Ratings as Word of Mouth

Previous research on online WOM concerning motion pictures has focused on the volume and valence of WOM and the predictive effects on box office revenue (Dellarocas et al., 2004; Liu, 2006). Liu (2006) claims that the volume and valence of user ratings influence audience's cognition and behaviors through different routes. The volume which refers to the total quantity of interaction can have an informative effect on awareness, while the valence, which is defined as the quality of WOM concerning positive or negative evaluation of movies, can have a persuasive effect on audience's attitudes toward movies (Liu, 2006). The volume of WOM indicates the frequency with which people are exposed to WOM on the

Internet about a movie and also increased awareness about the movie. This awareness results in purchasing movie tickets. The volume of user ratings is often the most significant explanatory factor to predict future box office revenue (Dellarocas et al., 2004; Duan et al., 2005; Liu, 2006).

The persuasive role of valence of WOM is expected in such a way that positive WOM enhances positive attitude and negative WOM reduces it; however, this effect was not supported in previous studies in such a way that the valence of WOM concerning a movie was not significantly related to the ticket sales at box office for that movie (Dellarocas et al., 2004; Duan et al., 2005; Liu, 2006). Dellarocas et al. (2004) suggested that the valence (i.e., positive or negative value) of user rating could be a factor which has greater influence on people's attitudes than on behaviors such purchasing movie tickets. Liu (2006) stated that the valence of WOM may affect people differently according to overall WOM values of movies. Further, Liu (2006) suggested that people may perceive WOM on the Internet as a reflection of someone else's taste, possibly causing WOM on the Internet to lose its persuasive power. In sum, although the informative power (i.e., volume) of on-line WOM on ticket sales at box office is supported, the persuasive effect (i.e., valence) of on-line WOM on ticket sales at box office is still ambiguous.

These inconsistent results concerning the effects of volume and valence of user ratings can be due to the misconception of WOM on the Internet as an extended form of WOM in interpersonal relationships. First of all, the previous

studies considered the valence of WOM as an absolute value: a positive or negative value. In order to demonstrate the predictive power of WOM for box office revenue, the researchers just assumed a simple relationship between the valence of WOM and people's movie selection, positive WOM increasing an audience's positive attitude and negative WOM reducing it. It should be considered that people tend to see themselves as better than others (i.e., better than average effect, Alicke et al. 1995), and accordingly people do not simply follow the majority's opinion (Alvaro & Crano, 1996). The effect of valence of WOM may not simply come from the valence of WOM on the Internet, but may result from a discrepancy between the valence of WOM and one's own value about movies. Thus, it could be helpful in clarifying the effects of valence if the valence of WOM is defined as the difference between others' user ratings and an individual's own ratings.

Moreover, the user rating is a dynamic process including interaction between individuals and their perception of user ratings. WOM on the Internet often starts to form before movies are released. The early user ratings which are posted on the Internet before the release reflect people's expectations about movies, and later user ratings (which are posted on the Internet after the release) indicate people's actual evaluations of the movies, which may be influenced by the early user ratings. Thus, a simple correlation between the valence of user ratings and future movie revenue may not fully explain the effect of user ratings. In previous studies (Dellarocas et al., 2004; Duan et al., 2005; Liu, 2006), box office revenue, the result of people's choices, which are assumed to be influenced by WOM on the

Internet, was considered as a dependent variable. People's immediate responses to WOM or user ratings of a movie were not considered in those previous studies. WOM on the Internet, especially numeric ratings of users or movie watchers, is similar to opinion polls on the Internet in that people's responses can be disclosed immediately right in the WOM itself. Hence, by examining the characteristics of public opinion polls on the Internet, it may be possible to better understand how and why individuals respond or do not respond to the WOM on the Internet and individuals are or are not influenced by WOM on the Internet. The next section will review the characteristic of WOM on the Internet as an opinion poll.

User Ratings as Public Opinion Polls

As a collection of individual opinions, a public opinion is more than the mere statistical aggregation of individuals' opinions (Mutz, 1989; Park & Salmon, 2005) in that the formation process of public opinion involves interactions not only among individuals but also between individuals and their perceptions of the opinions of others (Pan et al., 2005). Public opinion polls reported by the mass media influence individuals' perceptions of assumed opinion climates (Fields & Schuman, 1976; Glynn et al., 1995; Mutz, 1998).

WOM on the Internet, especially user ratings, takes on some characteristics of public opinion polls on the Internet. First, WOM on the Internet comes from diverse groups of people. Various Internet sites provide places for individuals to directly access thousands of anonymous others' opinions and post their own opinions (Dellarocas et al., 2004). Dellarocas et al. (2004) claims that WOM has

more persuasive powers when it comes from different social groups rather than one's own group. Especially, a user rating, which consists of numerical evaluation, is a type of opinion poll about a certain move in that it shows at once how many people like or dislike the movie.

The second characteristic of user rating on the Internet as online public opinion polls is interactivity. Interactivity is identified as the activity of communication exchange in interpersonal and social communication (Rafaeli, 1988; Schultz, 1999). The main features of fully interactive communication are identified as equal participation, symmetrical communicative power, and interconnectedness (Schultz, 1999). In addition, interactivity connects not only communication encounters but also between communication environments, content, and users (Russell, 2006). The Internet is a public area where public opinion is shaped through opportunities for each individual to express his or her own opinion and to participate in debates and polls (Savigny, 2002). Interactivity on the Internet is more than connectedness with each other, and it allows people to express their opinions equally. While in traditional media the public has become a passive audience which just reacts or responds to media content (Franklin, 1994), on the Internet people are positioning themselves as the participants rather than audience. Online discussion boards, chat rooms, and public opinion polls are examples of interactive communication among users (Schultz, 2000).

Some scholars, however, have criticized online opinion polls in terms of their nonscientific characteristics, such as the possibility of rating result

manipulation by multiple votes, sampling problems (e.g., self-selected participants) (Kent et al., 2006), and biased results by a skewed sample with participants who may already have interest in poll issues (Wu & Weaver, 1997). Kent et al. (2006) argued that the role of online opinion polls is not to measure public opinion climate, but to allow people to express their opinions. Whether or not online opinion polls provide the circumstances of public opinion, individuals can use the results of online polls to investigate the circumstances of public opinion (Wu & Weaver, 1997).

People might be more motivated to join online discussions or opinion polls because of these non-scientific aspects of online opinion polls. The openness to everyone and self-selected voluntary participation in polls on the Internet make people react to the results of ongoing opinion polls, which people can see before they participate. Although Schultz (1999) pointed out multiple voting as unscientific aspect of online polls, people may use the chance of multiple voting in an attempt to change the results of ongoing opinion polls which are different from their own opinions. Hence, the current study asks the question; why and when do people choose to (or choose to not) participate in opinion polls in order to change the direction of the opinion poll results to support their side? One hypothesized explanation is that people participate in the polls not only to express their own opinion but also to influence the opinion poll results. The decision to participate in ongoing polls is influenced by people's concerns for others who may be more vulnerable to the effects of poll results than themselves. Especially, when the poll

results disagree with their opinions and when they perceive that others may be more influenced by these poll results, people may be more willing to participate in the polls. This phenomenon could be explained by the Third-person effect (TPE).

Public Opinion Perception and Third-Person Effect

The TPE is based on peoples' misperceptions of the effect of media messages on themselves and others. Davison (1983) suggested the TPE hypothesis, which says that people who are exposed to persuasive media messages will expect that others will be greatly influenced by the messages when, in fact, they may not be. According to the TPE, the media will not have a great influence on "me" or "you," but it will on "them" – the third person. According to Davison (1983), the third person refers to an unspecified person, someone in the public who is considered by first persons when they perceive media messages. Perloff (1999) indicated that the TPE is composed of perceptual and behavior components. The perceptual component refers to the discrepancy between self and others, which can lead to the misperception of media effects on others. The behavior component as a key element of the TPE is the first-persons' reactions to their incorrectly-anticipated media impact on the third-person. This overestimated media effect on others by the first person leads to the first person's attitude and behavior changes about media messages. To sum up, although a persuasive media message does not directly influence people's attitudes or behaviors, it may be seen to indirectly change people's behavior by considering its influence on others.

Research has shown that the TPE is stronger for controversial news reports

(Salwen & Driscoll, 1997); undesirable messages, such as pornography (Gunther, 1995); and persuasive media messages, such as commercials (Shah, Faber, & Youn, 1999). News reports of opinion polls also have a persuasive effect on audiences because they present the public opinion climate (Mutz, 1989). Scholars of public opinion assert that perceptual processes in public opinion should be stressed because public opinion polls in the mass media systematically bias people's public opinion perception in favor of majority (Pan et al., 2005). People need to be sensitive to potential misperceptions of opinion climate because sometimes individuals' opinions reflect their personal values and reveal who they are. Mutz (1989) claimed that there is a greater perceptual gap between self and others in perceiving public opinion polls and the perception of public opinion climate influences people's willingnesses to express their own opinions.

As scholars have pointed out that there has been relatively little work done to explore how exposure to the results of opinion polls influences the poll itself, they have claimed that people's perceptions of the effect of public opinion polls also take part in the formation of public opinion itself (Lavrakas et al., 1991; Morwitz & Pluzinski, 1996; Pan et al., 2005). In traditional opinion polls, people express their opinions without consideration of other's opinions, while in online opinion polls, people can see the results of the ongoing polls before they participate in it. The mere exposure to the poll results has an impact on people's attitude changes (Morwitz & Pluzinski, 1996). Morwitz and Pluzinski's (1996) study showed that people exposed to the poll results changed their attitudes toward

candidates in the direction of the poll results. Public opinion polls in news coverage lead to a biased judgment of the assumed influence of opinion polls on others (Gunther & Storey, 2003), and also it supports the restriction of opinion poll reports (Milavsky et al., 1985); however, the effect of mere exposure to the poll results on the poll itself is still undeveloped as of yet. Thus, the current study examines how user ratings, as one type of public opinion poll, will influence people's perceptions of the opinion climate and how people's perceptions of the results of ongoing opinion polls also influence the opinion polls themselves. It is expected that people will tend to minimize the effect of user ratings on themselves and to maximize the effect of user ratings on others. The following hypotheses are thus advanced.

H1: User ratings on the Internet will be perceived by people to have a greater effect on others than on themselves.

The volume of user ratings can affect the perceptual gap between self and others. A great volume of user ratings, which may be perceived as the aggregation of public opinion at large, may have strong persuasive power. Thus, it is expected that the higher the volume of users who have posted their ratings (i.e., the greater the total number of user ratings), the greater the perceived effect of user ratings on others will be than the perceived effect of user ratings on self.

H2: As the volume of user ratings increases, the self-other gap in perceived effect of user ratings will increase.

The current study conceptualizes the valence of user ratings as the differences between an average user rating and an individual's own ratings. If the

results of the user ratings are in opposition to people's own evaluations (a big difference between the user ratings and one's rating), it could be perceived as undesirable message to force one's opinion change in the manner of poll results and people may be more likely to underestimate the effect of user ratings on themselves and to overestimate the effect on others. Thus, the gap between the valences of user ratings and people's opinions will be negatively correlated with the self-other gap in the perceived effect of user ratings.

H3: As the gap between the valences of user ratings and people's own ratings increases, the self-other gap in the perceived effect of user rating will increase.

Willingness to Express Opinions, Spiral of Silence Theory, and TPE

One important aspect of online polling is that people voluntarily participate in the polls. Traditional public opinion polls have used survey methods such as telephone surveys, interviews, and visiting houses. Although the decision to answer the survey questions fully depends on people's own intentions, the chance to participate in the traditional opinion poll is determined by a sampling method chosen by the surveyors or polling agencies. For opinion polls on the Internet, however, the decision to participate in the polls is up to individuals' volition to express their opinion publicly. Thus, motivations and behavioral patterns reflected in participation in the Internet opinion polls may be different from those in participation in the traditional opinion polls.

Concern for others can be a reason for individuals' willingness to engage in

WOM on the Internet. Dichter (1966) considers altruism and desire to warn others as one reason why individuals become participants in WOM. Anderson (1998) demonstrated that the relationship between consumer satisfaction and the rate of participation in WOM follows a U-shape. Those who were very satisfied or unsatisfied with the product are more likely to engage in either positive or negative WOM than those who have middle levels of satisfaction. Especially, extremely dissatisfied customers engage in greater WOM than highly satisfied customers (Richins, 1983; Anderson, 1998). These results suggest that both highly satisfied and highly dissatisfied people may believe the expression of their opinions could influence other's choices, wanting to persuade others to purchase or not purchase the products.

Spiral of silence theory. Noelle-Neumann's spiral of silence theory could be useful to explain people's willingness to express their own opinions in relation to the perception of the opinions of others. Underlying this, Noelle-Neumann (1974) claimed that the public opinion formation process arises not only from interaction among individuals but also from their perceptions of the opinion climate. According to Noelle-Neumann, some people have a fear of isolation from others. When it comes to controversial issues, individuals observe the overall distribution of others' opinions through 'quasi-statistical pictures' drawn from various social circumstances and assess which opinion is dominant and which others are degraded. If they perceive their views to be among the minority, they may be less confident about their opinions and decide to be silent, rather than speaking out with

their opinions publicly. As people are more likely to perceive their opinions are in the minority, they are more likely to keep their opinions to themselves. As this process continues, the seemingly dominant opinion becomes more widespread and other opinions become less popular. Noelle-Neumann (1974) argued that willingness to express one's opinion differs from willingness to change one's opinion. She argued that there is a positive correlation between people's assessment of present and future opinion distributions in such a way that the overall distributions of opinions are consistent overtime. People do not necessarily change their opinions to adopt the seemingly dominant opinion, but they become increasingly silent about their opinions, indirectly helping the dominant opinion to appear more dominant.

Among the many factors that influence willingness to express one's opinions, individuals' knowledge about the topic (Salmon & Neuwirth, 1990; Shamir 1997), interest in the issues (Baldassare & Katz, 1996; Lasorsa 1991; Noelle-Neumann, 1974; Willnat et al., 2002), confidence in their correctness (Lasorsa, 1991), and people's perceptions of the public opinion climate (Mutz, 1989) affect willingness to express one's opinion. The mass media is an important system for providing information about the opinion climate (Noelle-Neumann, 1974). Rather than reflecting the public opinion, however, the mass media is seen as shaping the public opinion; the mass media play an important role in creating public opinion by providing social pressure for people to respond to it. Thus, opinion polls on the media have been seen to influence individuals' willingness to

express themselves.

However, some scholars have criticized the assumption of spiral of silence theory: the fear of isolation. As Noelle-Neumann assumed that people have some degree of fear of isolation from society at large and some people have more fear of isolation than others, the fear of isolation varies with individual differences (Hayes et al., 2005) and situations (Hayes et al., 2001). Glynn and McLeod (1985) pointed out that fear of isolation could be a factor affecting one's willingness to express themselves rather than a basic assumption. At this point, the current study questions do people have the same fear of isolation from others in the virtual world as off-line? Previous studies have asked the participants to imagine a conversational situation with friends or strangers and then measured participant's willingness to express themselves during the imagined conversational situation in experimental settings. In this case, an imagined conversational situation is restricted to face to face conversation; thus the fear of isolation depends on hypothetical situations and conversation partners. Therefore, the fear of isolation actually stems from people's imagined relationships, not from society at large. On the other hand, the main feature of the Internet is the anonymity which hides identity. People may have less fear of isolation from society, even though they realize that their opinions are not supported by the majority. On the Internet, therefore, the fear of isolation from others could explain why people avoid expressing their opinions when they are in the minority but could not explain why people have more willingness to express their opinions in general. If people have less fear of isolation from others in the

virtual world than offline, why would people have more or less willingness to express their opinion? In relation to the main feature of online polls, the interactivity between users and their perception of online poll results, people's concern for others who may be influenced the results of polls could be a motivator for expressing one's opinions publicly on Internet polls.

The third-person effect and willingness to express opinions. The behavior component of the TPE argues that people's motivations for their attitude or behavior changes are not due to the persuasive power of media messages, but to their misperceptions of the effect of mass media on others (Davison, 1983). Mutz (1989) examined the role of people's public opinion perceptions on their willingnesses to express their opinions, and the results demonstrated that people who perceived the opinion distribution to be in the favor of their position tended to be more willing to speak out about their opinions. Therefore, the current study suggests that people's concern for others is related to the effect of online polls as an important motivator that influences their willingnesses to express their own opinions on online polls rather than to a fear of isolation. In the cyber-world, although people do not need to feel fear of isolation from anonymous others because their identity also could be hidden, so they may voluntarily participate in on-line polls due to their concern for the perceived effect of on-line poll results on others. The more people believe that the results of ongoing on-line polls have a great impact on others, the more willing they will be to participate in the polls. The following hypotheses are offered.

H4: As the gap between the perceived effect of user ratings on self and on others increases, people's willingnesses to express their opinion will increase.

A great volume of user ratings will reduce willingness to express one's opinion because adding one vote may have little effect on changing the results of ongoing polls. Thus, the volume of user rating increases and people's willingnesses to express their opinions will be negatively correlated.

H5: As the volume of user ratings increases, people's willingnesses to express their opinions will be reduced.

The valence difference between the user ratings and one's own rating will have a positive effect on willingness to express one's opinion. Specifically, when user ratings and people's opinions are significantly different, people have a strong willingness to express their opinions in order to minimize the effect of user ratings on others.

H6: As the difference between the valence of user ratings and one's own rating increases, people's willingness to express their opinions will increase.

STUDY 1

Method

Participants

Undergraduate students in Communication and Advertising classes at Michigan State University were asked to participate in the survey in exchange for extra research credit in each class. In total, 403 students voluntarily participated in the survey. The nationality of 96.5% (n = 389) students were U.S, while 3.5% (n = 14) students were international students. Among the international students, the nine Korean international students who had the greatest possibility of having been influenced by information about the stimulus (Korean movies), from Korean websites or other sources, were excluded from data. Therefore, the responses of 394 students were used in the final analysis.

Design

The current study used a 2 (volume: high and low) × 2 (valence: positive and negative) x 2 (before and after exposure to user rating) mixed design with volume and valence as between-subject factors. The volume of user rating was manipulated as the number of hypothetical students who were said to have participated in the rating. In the high volume conditions, the ratings of 350 students were provided, while, in the low volume conditions, the ratings of 15 students were provided to participants. The valence of user rating was defined in terms of positive and negative ratings; four points (i.e., of five stars, four were yellow and one was white) were provided as a positive rating and one point (i.e., of five stars, one was

yellow and four were white) was presented as a negative rating. Research participants were randomly assigned to one of the four conditions. There were 25.1 % participants (n = 99) in condition 1 (high volume and positive valence), 26.6% participants (n = 105) in condition 2 (high volume and negative valence), 22.3% participants (n = 88) in condition 3 (low volume and positive valence), and 25.9% participants (n = 102) in condition 4 (low volume and negative valence). Participants were asked to indicate their own rating and their estimated ratings of other students about movies before and after exposure to user ratings.

Stimulus

In order to control the effect of information from other sources, it was decided to use movies unfamiliar to American participants. The current study used hypothetical students' ratings of three Korean movies, which were released in Korea between January and August, 2007 and ranked high in the Box Office but were not released in the U.S. In addition, to avoid the confounding effect of genre preference, the three movies were selected from different genres; drama, comedy, and horror. The three movies were *Secret Sunshine* (drama), *200 Pounds Beauty* (comedy), and *Black House* (horror). Of the participants, 30.5% of them (n = 120) were randomly assigned to conditions using *Secret Sunshine*, 37.3% (n = 147) were randomly assigned to conditions using to *200 Pounds Beauty*, and 32.3% (n = 127) were randomly assigned to conditions using to *Black House*. The English version of the posters and a simple synopsis of each movie were presented as information about the movies for participants.

The survey was conducted on the Internet in order to provide similar circumstances to the real situation of online ratings for participants. With the permission of the instructors of each class, one hyperlink of the questionnaire out of the hyperlinks for the four conditions was randomly provided to participants via e-mail. When participants clicked the hyperlink of the questionnaire on the Internet, they saw the website for the questionnaire, including the poster for and a simple synopsis of one movie out of three movies. After participants had read the information about the movies, they were asked to answer to items assessing the third-person effect of user ratings on themselves and other students and their willingnesses to express their own opinions.

Measures

Measures used in the current study are listed in Appendix. Table 1 shows Cronbach's α reliabilities, correlations, means, and standard deviations of the main variables in the study.

The third-person effect of user ratings. As the dependent variable of hypotheses 1, 2, and 3 and the independent variable of hypotheses 4, the third-person effect is defined as the difference in perceived effects of user ratings on self and on other students. The gap of the perceived effect of user ratings on self and on others was measured in two ways: 1) measuring participants' perceptions of the effects that user ratings have on self and on others by using parallel questions (hereafter, it is called TPE 1) and 2) measuring the extent to which participants' self rating of a movie changed from before to after exposure to user ratings and the

extent to which they effected participants' estimated ratings of other students before and after exposure to the user rating (hereafter, it is called TPE 2).

Three parallel items were used to measure the perceived effect of user ratings on self and others (TPE 1). Participants were asked to answer the following questions: "how much do you think this rating has affected your / other students' ratings of the movie," "how much do you think this rating has affected your / other students' attitudes toward the movie," and "how much do you think this rating has affected your / other students' expectations of the movie." The three questions were identical except for the first person (you) and third-person (other students) designations. The reliability of the three items which asked about the perceived effect of user ratings on self was $\alpha = .91$. The reliability of the three items that asked about the perceived effect of user rating on others was $\alpha = .94$. Three items were averaged to produce a single perceived user rating effect score on self ($M = 2.98$, $SD = 1.35$) and a single perceived user rating effect score on the other ($M = 3.67$, $SD = 1.09$).

Participants were asked to indicate their ratings of a movie and their estimated ratings of other students of a movie before and after being exposed to the manipulated user ratings to measure the observed effect of user ratings on self and others (TPE 2). Each person's rating of the movie was measured with eight items (interesting, funny, boring [recoded], appealing, impressive, exciting, like a waste of time [recoded], and ordinary [recoded]) on a six–point scale from "0-not at all" to "5-very much" and one additional item ("If you were to rate this movie, your

rating of this movie would be ____ out of 5"). After analyzing the reliability of the nine items, two items (funny and ordinary) were removed because removing these two items improved the reliabilities from $\alpha = .87$ to $\alpha = .92$ for self ratings before exposure; from $\alpha = .81$ to $\alpha = .87$ for the other rating before exposure; from $\alpha = .87$ to $\alpha = .92$ for the self rating after exposure; and from $\alpha = .90$ to $\alpha = .93$ for the other rating after exposure.

Willingness to express one's opinion. Before measuring participants' willingness to express their opinions, a simple script was presented to participants. The script said that "The Department of Communication at Michigan State University is collecting students' opinions about foreign movies in order to host an International Film Festival next year. The user rating about a movie was produced by ratings of other MSU students in the last semester and participants' rating in this survey also will be included in this rating for other MSU students of next semester." The purpose of this script was to make participants believe that the manipulated user ratings were really other students' ratings and that their participation in this rating had a real influence on other students' ratings.

Participants' levels of willingness to express their opinions were measured on a six-point scale from "0-not at all" to "5-very much" in terms of their willingness to participate in user ratings and to review movies in various hypothetical situations: willingness to have their ratings reflected in later versions of this survey, willingness to vote multiple times in a user rating, willingness to participate in a user rating and to make user comments on other movie sites, and

willingness to express their opinions in a hypothetical class discussion. The reliability of willingness, measured with six items, was $\alpha = .71$; however, item number 1, "willingness to have their ratings reflected in a later version of this survey," and item number 2, "willingness to vote multiple times in a user rating," lowered the reliability (i.e., low item – total correlation). After deleting these two items, reliability of willingness to express opinions increased from $\alpha = .71$ to $\alpha = .74$. The scores on the four items were averaged to create willingness to express opinions ($M = 2.67$, $SD = 1.04$).

Fear of isolation and self-censorship. In addition, the fear of isolation scale (Neuwirth, 2000) and the self-censor scale (Hayes et al., 2005) were presented to participants in the last part of the questionnaire. The reliability of the fear of isolation scale was $\alpha = .32$. Among the six items, only two items, which showed relatively high correlations with one another, were used to produce an average score of fear of isolation. The reliability of fear of isolation with these two items was $\alpha = .76$. The self-censor scale consisted of eight items, and its reliability was $\alpha = .80$. After removing one item which showed low item – total correlation, the reliability was $\alpha = .81$. The scores on the seven items were averaged to produce an average score of self-censorship.

Demographic information and movie selection behavior. Participants were asked to indicate their age, gender, ethnicity, academic standing, and national status. The range of participants' ages was from 18 to 27. The proportion of gender among the participants was 35.3% male (n = 139) and 64.7% female (n = 255).

Regarding the ethnicity of participants, 84.5% (n = 333) of the students were Caucasian, 7.6% (n = 30) of the students were African American, and 3.0% (n = 12) of the students were Asian American. In college standing, 17.8% (n = 70) were freshmen, 8.6% (n = 34) were sophomores, 37.1% (n = 146) were juniors, and 30.5% (n = 120) were seniors.

In addition, participants were asked to answer questions about their movie selection behaviors. In preference for watching movies, 52.3% (n = 206) of the participants preferred to watch movies on DVD, 42.1% (n = 166) of the participants preferred to watch movies in theaters, and 4.6% (n = 18) of the participants preferred to watch movies on TV. The frequency for watching movies in theaters was 1.69 times per month, while the frequency of watching movies on DVD was 6.8 times per month. For genre preference, comedy (41.9%, n = 165) and romantic comedy (27.4 %, n = 108) were the most highly preferred by participants, and the rest of the order of genre preference was as follows: drama (11.9%, n = 47), action (9.9%, n = 39), horror (6.1%, n = 24), fantasy (0.5%, n = 2), animation (0.3%, n = 1), and others (2.0%, n = 8). When asked with whom they watch movies, 74.6% (n = 294) of the participants indicated friends, 18.5% (n = 73) indicated with dates, 3.3% (n = 13) indicated that they watched movies alone, and 2.5% (n = 10) indicated family. When asked to indicate the trustworthiness of each movie selection source on a 7-point scale (1 = not trustworthy at all, 7 = most trustworthy), the order of trustworthy sources was: information from friends (M = 6.05, SD = 1.07), television ads (M = 5.32 , SD = 1.42), movie Internet sites (M =

4.41, *SD* = 1.63), critics' reviews (*M* = 4.23, *SD* = 1.66), user reviews on the Internet (*M* = 3.89, *SD* = 1.68), magazine ads (*M* = 3.73, *SD* = 1.55), and newspaper ads (*M* = 3.53, *SD* = 1.55). Interests in foreign movies and Asian movies were measured on a 7-point scale from "1 - not at all" to "7 -very much." The participants' interest in foreign movies was *M* = 2.80, *SD* = 1.56, and their interest in Asian movies was *M* = 2.22, *SD* = 1.29. Only 29.2% (n = 115) of the participants had had the experience of watching Asian movies, and 70.6% (n = 278) of the participants had never watched an Asian movie.

Table 1. Reliabilities, Means, Standard Deviations, and Correlations of Variables of Study 1.

	Self Rating before Exposure	Others' Rating before Exposure	Self Rating after Exposure	Others' Rating after Exposure	Perceived Effect on Self	Perceived Effect on Others	Willingness	Fear of Isolation	Self-Censor
Self Rating before Exposure	.92								
Others' Rating before Exposure	.54**	.87							
Self Rating after Exposure	.84**	.52**	.92						
Others' Rating after Exposure	.20**	.35**	.45**	.93					
Perceived Effect on Self	.22**	.10*	.15**	-.04	.91				
Perceived Effect on Other	.27**	.17**	21**	.05	.62**	.94			
Willingness to Express Opinion	.33**	.15**	.32**	.11*	.18**	22**	.74		
Fear of Isolation	.06	.01	.05	.08	.21**	.11*	.11*	.76	
Self-Censor	.03	-.10	.02	.04	.17**	.15	.03	.50**	.81
total M	3.25	3.28	3.16	3.17	2.98	3.67	2.67	2.94	3.04
SD	(1.08)	(0.87)	(1.06)	(1.16)	(1.35)	(1.09)	(1.04)	(1.26)	(0.89)

*p <.05, **p< .01, *df* ranged from 375 to 384
Reliabilities (Cronbach's α) are reported on the diagonal

Results

Preliminary Analysis

Before conducting main analyses, the effects of movie on the perceived effect of user ratings and on the observed self-other rating changes were analyzed. An ANOVA did not reveal a significant effect of movie type on differences in perceived effects of user ratings on self and others, $F(2, 389) = 0.03$, $p = 0.97$, $\eta^2 = .00$, or on differences in observed self rating change and other rating change, $F(2, 389) = 0.50$, $p = .61$, $\eta^2 = .00$. For differences in the perceived effects of user ratings on self and others, *Secret Sunshine* ($M = 0.94$, $SD = 0.94$), *200 Pounds Beauty* ($M = 0.97$, $SD = 0.97$), and *Black House* ($M = 0.96$, $SD = 0.89$) were not different from one another. For differences in observed self rating change and other rating change, *Secret Sunshine* ($M = 0.66$, $SD = 0.75$), *200 Pounds Beauty* ($M = 0.59$, $SD = 0.62$), and *Black House* ($M = 0.58$, $SD = 0.66$) were not different from each other.

Main Analysis Overview

In the current study, the effects of user ratings on self and others were conceptualized in two ways: 1) the perceived effects of user ratings on self and others after exposure to the user ratings and 2) participants' own rating change and estimated others' rating change before and after exposure to the user ratings. The rating change was calculated by taking the absolute values of difference between self ratings before and after exposure to user ratings and difference between the participants' estimated other ratings before and after exposure to user ratings. Thus, two scores of the third person effect were produced as repeated measures: TPE 1) the perceived effect of user ratings on self and the perceived effect of user ratings on others and TPE 2) the absolute difference

in self ratings before and after exposure to user ratings and the absolute difference in other ratings (i.e., participants' estimated ratings of others) before and after exposure to user ratings. TPE 1 and TPE 2 were used in analyses testing hypotheses 1, 2, and 3, which predicted the effects of the target (self versus others), volume, and valence, respectively. Hypotheses 4, 5, and 6 predicted the effects of the target (self versus others), volume, and valence on willingness to express opinions. Multiple regression analysis testing hypotheses 4, 5, and 6, however, used only TPE 1 after calculating the difference between the perceived effect of user ratings on self and the perceived effect of user ratings on others (hereafter, it is called D-TPE 1), for the purpose of the clarity and simplicity of the analysis.

In addition, the effect of user rating valence was tested in two ways: 1) Valence 1: the valence of the manipulated user rating as a positive valence (i.e., four yellow stars out of five stars) and negative valence (i.e., one yellow star out of five stars) and 2) Valence 2: the absolute difference between user ratings (one out of five stars in the negative valence condition and four out of five stars in the positive valence condition) and participants' own ratings before exposure to user ratings (e.g., when a participant's self-rating score before exposure to the user ratings was three, his or her valence 2 score was two if he or she was in the negative valence). Hypotheses 3 and 6 were concerned with the effect of the gap between the valence of user ratings and people's own ratings on perceived effect of user ratings (H3) and on willingness to express opinions (H6). Although valence 1 was not the gap between valence of user ratings and people's own ratings but rather the manipulation of positive and negative valence, Valence 1 was included in the mixed ANOVA analyses to test hypotheses 1 and 2. To directly test

hypothesis 3, valence 2 was included in a multiple regression analysis with the perceived effect of user ratings on self and others as the dependent variable. Valence 2 was also used as a predictor in multiple regression analyses testing for hypothesis 6, with willingness to express opinions as the dependent variable.

The Third Person Effect of User Ratings on Self and Others

It was predicted that user ratings would have greater effect on others than on self (H1), especially if user ratings indicated a high volume rather than a low volume (H2), and if the more likely user ratings would differ from participants' own ratings (H3). To test hypotheses 1 and 2, mixed ANOVAs were conducted on TPE 1 and TPE 2 separately as dependent variables. Table 2 reports means and standard deviations of the TPE 1, TPE2, and willingness to express opinions in each experimental condition.

Overall Third Person Effect (H1). Hypothesis 1 predicted that the effect of user ratings would be larger on others than on self. In analysis 1 (TPE 1), a 2 (target: self *versus* other) × 2 (volume: high *versus* low) × 2 (valence 1: positive *versus* negative) mixed ANOVA was conducted to compare the perceived effect of user ratings on the target (self and other). The analysis revealed a significant main effect for the target, F (1, 388) = 156.19, $p < .001$, $\eta^2 = .07$. Consistent with H1, the perceived effect of user ratings on others ($M = 3.68$, $SD = 1.25$) was significantly higher than on self ($M = 2.97$, $SD = 1.36$).

In analysis 2 (TPE 2), a 2 (target: self *versus* other) × 2 (volume: high *versus* low) × 2 (valence 1: positive *versus* negative) mixed ANOVA was conducted to compare self rating change and other rating change before and after exposure to user ratings. The analysis revealed a significant main effect for the target, F (1, 388) = 98.96, $p = .00$, $\eta^2 =$

.09. Consistent with H1, other rating change before and after exposure to user ratings (M = 0.84, SD = 0.85) was significantly larger than the self rating change (M = 0.42, SD = 0.45).

Volume (H2) and valence 1. H2 predicted that the differential effects of user ratings on self and others would be greater in the high volume than the low volume condition. In analysis 1 (TPE 1), the analysis did not reveal a significant main effect for the volume of user ratings, F (1, 388) = 0.78, p = .38, η^2 = .00, and did not reveal a significant main effect for the valence of user ratings, F (1, 388) = 2.20, p = .14, η^2 = .004. The two way interaction between volume and target was not significant, F (1, 388) = 2.13, p = .15, η^2 = .001. The two way interaction between valence 1 and target was not significant, F (1, 388) = 3.08, p = .08, η^2 = .001. The three way interaction among volume, valence 1, and target was not significant, F (1, 388) = 0.02, p = .89, η^2 = .00. Thus, inconsistent with H2, peoples' perceived effects of user ratings on self versus others were not affected by volume. Additionally, peoples' perceived effects of user ratings on self and others were not affected by the positive and negative valence of user ratings.

In analysis 2 (TPE 2), the analysis revealed a significant main effect for the volume of user ratings, F (1, 388) = 3.99, p < .05, η^2 = .006. The overall change (the average of self change and other change) was larger in the low volume condition (M = 0.68, SD = 0.55) than in the high volume condition (M = 0.57, SD = 0.51). In addition, the two-way interaction of the target (self versus other) and volume was significant, F (1, 388) = 8.78, p = .003, η^2 = .008. Self rating changes in the high volume condition (M = 0.43, SD = 0.41) and in the low volume condition (M = 0.41, SD = 0.50) did not differ, t

(390) = 0.32, p = .75, but the other rating change in the low volume condition (M = 0.96, SD = 0.85) was greater than in the high volume condition (M = 0.72, SD = 0.83), t (390) = 2.83, p = .005. Inconsistent with H2, the low volume condition produced more change in participants' estimated ratings of others before and after exposure to user ratings, while participants' self rating remained same before and after exposure to user ratings.

The analysis revealed a significant main effect for the valence of user rating, F (1, 388) = 6.06, p = .01, η^2 = .008. The overall change (the average of self change and other change) was larger in the negative valence condition (M = 0.69, SD = 0.55) than in the positive valence condition (M = 0.56, SD = 0.51). The two-way interaction of the target (self versus other) and valence was not significant, F (1, 388) = 0.03, p = .86, η^2 = .00. The three way of interaction among the target, valence, and volume was not significant, F (1, 388) = 0.20, p = .65, η^2 = .00.

Valence difference (H3). With regard to the effect of valence difference (i.e., difference between user ratings and self rating scores), H3 predicted that the difference between the user ratings and people's self ratings would positively relate to differences in the effects of user ratings on self and others. To test H3, two regression analyses were used: one with D-TPE 1, the difference score in TPE 1 (i.e., the difference between perceived effects of user ratings on self and perceived effects of user ratings on others), as the dependent variable and another with D-TPE 2, the difference score in TPE 2 (i.e., the absolute difference in self ratings before and after exposure to user ratings and the absolute difference in other ratings before and after exposure to user ratings), as the dependent variable. Before conducting the analyses to test the hypotheses, the two volume conditions were coded with low volume as 0 and high volume as 1 to create a

dummy variable. The continuous predictor variable, valence 2, was mean-centered. A hierarchical multiple regression analysis was conducted with the continuous variables and the dummy variable in the first block and the product term of the predictor variables in the second block.

In analysis 1 (D-TPE 1), the overall model was significant, F (3,380) = 3.23, p = .02, $adj.R^2$ = .016. The two predictors in the first block, however, did not contribute significantly to the self–other gap of perceived user rating effect, F (2,381) = 1.79, p = .17, $adj.R^2$ = .004. H2 and H3 predicted that the volume of user ratings (H2) and the valence difference between user ratings and self rating (H3) would predict the self-other gap of perceived user rating effect (i.e., difference between perceived effect of user ratings on self and perceived effect of user ratings on others). Inconsistent with H2 and H3, the results did not show significant effects of volume (unstandardized coefficient B = -0.09, SE = 0.10, β = -.05, t = -0.94, p = .35) and valence 2 (unstandardized coefficient B = 0.07, SE = 0.04, β = .08, t = 1.59, p = .11). On the other hand, the product term predictor in the second block accounted for a significant amount of variance in the difference in perceived effects of user ratings on self and others, F_{change} (1, 380) = 6.15, p = .01, $adj.R^2_{change}$ = .017. The interaction term for volume and valence 2 was significant, unstandardized coefficient B = 0.21, SE = 0.09, β = .17, t = 2.48, p = .01. To examine the pattern of interaction, two separate regression analyses were conducted for the high volume and low volume conditions. The analyses showed that valence 2 was a significant and positive predictor in the high volume condition, B = 0.18, SE = 0.07, β = .19, t = 2.76, p = .006, whereas valence 2 was not in the low volume condition, B = -0.03, SE = 0.06, β = -.04, t = -0.57, p = .57. Only in the high volume condition was the extent to

which user ratings differed from self ratings before exposure to user ratings positively associated with the extent to which perceived effects of user ratings was greater on others than on self.

In analysis 2 (D-TPE 2), the overall model was significant, $F(3, 380) = 9.06$, $p < .001$, $adj.R^2 = .06$. The predictors in the first block contributed significantly to the difference between self rating change and other rating change, $F(2, 381) = 13.33$, $p < .001$, $adj.R^2 = .06$. The results revealed that valence 2 ($B = 0.14$, $SE = 0.03$, $\beta = .23$, $t = 4.62$, $p < .001$) and volume ($B = -0.14$, $SE = 0.07$, $\beta = -.10$, $t = -2.05$, $p = .04$) were significant. Thus, the data were consistent with H2 and H3, in that other rating change was larger than self rating change in the high volume condition than in the low volume condition. As the difference people would perceive between the user ratings and their own ratings increased, the more likely it was that other rating change would be larger than self rating change before and after exposure to user ratings. On the other hand, the interaction between volume and valence 2 volume was not significant, $B = 0.05$, $SE = 0.06$, $\beta = .05$, $t = 0.75$, $p = .45$, and did not contribute significantly to self-other change before and after exposure, $F_{change}(1, 280) = 0.56$, $p = .45$, $R^2_{change} = .001$.

Table 2. Means and Standard Deviations of Study 1 Experimental Conditions.

	Low Volume		High Volume	
	Negative Valence	Positive Valence	Negative Valence	Positive Valence
Perceived effect on self	3.19 (1.44)	2.97 (0.28)	3.00 (1.40)	2.69 (1.19)
Perceived effect on others	3.71 (1.29)	3.67 (0.17)	3.71 (1.37)	3.59 (1.13)
total	3.45 (1.19)	3.32 (0.12)	3.36 (1.28)	3.14 (1.05)
Self rating change before and after exposure	0.47 (0.41)	0.37 (0.42)	0.49 (0.58)	0.32 (0.36)
Other rating change before and after exposure	0.75 (0.80)	0.71 (0.87)	1.06 (0.89)	0.84 (0.75)
total	0.61 (0.48)	0.54 (0.56)	0.78 (0.60)	0.58 (0.44)
Willingness to express opinions	2.75 (1.02)	2.67 (0.98)	2.59 (1.04)	2.50 (0.88)
	n = 104	n = 95	n = 101	n = 84

Note. Standard deviations are reported in the parentheses.

Third Person Effect on Willingness to Express One's Opinion

It was predicted that the perceived effects of user ratings on self and others (H4), volume (H5), and the difference between the user ratings and individuals' self ratings (H6) would be predictors for individuals' levels of willingness to express their opinions. Five variables (volume, valence 1, valence 2, perceived effect of user ratings on self, and perceived effect of user ratings on others) were used to predict willingness to express opinions. Before conducting the analysis, the two volume conditions were coded with high volume as 1and low volume as 0 to create a dummy variable. Continuous predictor variables were mean-centered. A hierarchical multiple regression analysis was conducted with the continuous variables and the dummy variable in the first block, the second-order product terms of the predictor variables (e.g., volume × valence 2, perceived effect on self × perceived effect on others) in the second block, and the third-order product terms in the third block. No other higher-order or non-linear relationships were observed. An examination of residuals and various indexes showed no violation of statistical assumptions.

The overall model was significant, $F(25, 360) = 2.88$, $p < .001$, $adj.R^2 = .11$. As shown in Table 3, the predictors in the first block and the second block contributed significantly to variances in willingness to express opinions, but none of the predictors in the third block did. Among the first-order predictors, only perceived effect on others was significantly positive, indicating that as individuals perceived greater effects of user ratings on others, they were more willing to express their opinions. Among the second-order predictors, the interaction term of valence 1 and valence 2 and the interaction term of perceived effect on self and perceived effect on others were significant. No other

interaction terms were statistically significant.

To probe the pattern of the interaction between valence 1 and valence 2, a multiple regression analysis was done separately for the positive and negative valence conditions. The results showed that valence 2 was a positive predictor of willingness to express opinions in the negative valence condition, with an unstandardized coefficient, $B = 0.21$, $SE = 0.07$, $\beta = .22$, $t = 3.07$, $p = .002$. That is, when the user ratings indicated one point out of five possible points (i.e., only one star out of five stars were yellow), the greater the difference between individuals' self rating and the user ratings, the more willing individuals were to express their opinions. In the positive valence condition, however, the results showed that valence 2 was a negative predictor of willingness to express opinions, $B = -0.29$, $SE = 0.09$, $\beta = -.23$, $t = -3.12$, $p = .002$. That is, when the user ratings indicated four points out of five possible points (i.e., four stars out of five stars were yellow), meaning that a greater difference existed between individuals' self rating and the user ratings, individuals were less willing individuals to express their opinions.

For the interaction between perceived effect on self and perceived effect on → others, simple regression analyses were conducted at various points of perceived effect on self. When perceived effect on self was at its mean, there was no relationship between perceived effect on others and willingness to express opinion, $B = 0.003$, $SE = 0.09$, $t = 0.03$, $p = .97$. When perceived effect on self was at 1 SD below, there was a positive relationship between perceived effect on others and willingness to express opinion, $B = 0.11$, $SE = 0.09$, $t = 1.15$, $p = .25$. The negative relationship between perceived effect on others and willingness to express opinions increased in strength as perceived effect on

self increased in strength; for 2 SD below, $B = 0.21$, $SE = 0.11$, $t = 1.92$, $p = .06$. On the other hand, when perceived effect on self was at 1 SD above, there was a negative relationship between perceived effect on others and willingness to express opinions, $B = -0.10$, $SE = 0.10$, $t = -1.00$, $p = .32$. The negative relationship between perceived effect on others and willingness to express opinion became stronger as perceived effect on self became stronger; for 2 SD above, $B = -0.20$, $SE = 0.12$, $t = -1.67$, $p = .10$.

Table 3. Regression Results for Willingness to Express Opinions.

	B	*SE*	□β	*t*	*sr*
First Block					
Volume[1]	0.12	0.10	.06	1.21	.12
Valence 1[2]	0.02	0.12	.01	0.18	.02
Valence 2[3]	0.04	0.05	.05	0.81	.04
Perceived Effect on Self	0.07	0.05	.10	1.49	.07
Perceived Effect on Others	0.12	0.05	.15	2.36*	.12
$F(5, 380) = 4.77, p < .001, adj.R^2 = .05$					
Second Block					
Volume × Valence 1	–0.23	0.23	–.10	–0.98	–.23
Volume × Valence 2	–0.16	0.11	–.13	–1.56	–.16
Volume × PE on Self[4]	0.03	0.09	.03	0.34	.03
Volume × PE on Others[5]	0.15	0.10	.14	1.52	.15
Valence 1 × Valence 2	–0.48	0.12	–.30	–4.15***	–.48
Valence 1 × PE on Self	0.09	0.11	.07	0.80	.09
Valence 1 × PE on Others	–0.06	0.12	–.04	–0.48	–.06
Valence 2 × PE on Self	–0.01	0.04	–.01	–0.18	–.01
Valence 2 × PE on Others	0.03	0.05	.05	0.75	.03
PE on Self × PE on Others	–0.08	0.03	–.14	–2.76**	–.08
$F_{change}(10, 370) = 3.51, p < .001, R^2_{change} = .08$					
Third Block					
Volume × Valence 1 × Valence 2	0.32	0.25	.15	1.31	.06
Volume × Valence 1 × PE on Self	–0.03	0.22	–.02	–0.15	–.01
Volume × Valence 1 × PE on Others	–0.36	0.23	–.21	–1.53	–.07
Volume × Valence 2 × PE on Self	–0.02	0.09	–.02	–0.16	–.01
Volume × Valence 2 × PE on Others	–0.15	0.10	–.15	–1.49	–.07
Volume × PE on Self × PE on Others	0.08	0.06	.12	1.34	.07
Valence 1 × PE on Self × PE on Others	–0.04	0.07	–.05	–0.57	–.03
Valence 2 × PE on Self × PE on Others	–0.03	0.03	–.07	–0.88	–.04
Valence 1 × Valence 2 × PE on Self	–0.16	0.12	–.13	–1.30	–.06
Valence 1 × Valence 2 × PE on Others	0.11	0.12	.09	0.93	.05
$F_{change}(10, 360) = 1.12, p = .35, R^2_{change} = .03$					

* $p < .05$, ** $p < .01$, *** $p < .001$

sr: semipartial correlation

Regarding multicollinearity, the first-order and second-order predictors had variance inflation factor (VIF) ranging from 1.01 to 5.49. Cohen, Cohen, West, and Aiken (2003) mentioned 10 as the traditional rule of thumb threshold value, although there is "no good statistical rationale for the choice of any of the traditional rule of thumb threshold values" (p. 424).

[1] dummy-coded with low volume = 0 and high volume = 1

[2] dummy-coded with negative valence = 0 and positive valence = 1

[3] Valence 2 was calculated as the difference between the user ratings and participants' self rating before being exposed to the user ratings.

[4] Perceived Effect on Self

[5] Perceived Effect on Others

STUDY 2

Study 1 did not reveal a significant effect for volume of user ratings. In the high volume condition, '350 voters' was presented to participants in order to make them believe that the manipulated user ratings came from real students. Considering the results for volume in study 1, it is possible that '350 voters' may not have been sufficiently large enough to represent a high volume. Thus, study 2 was conducted in order to test the effect of volume further by adding more high volume conditions. Study 2 used the same experiment procedure and questionnaire as in study 1, with the only difference between the two being the volume conditions.

Study 2 Method

Participants

Undergraduates in Communication and Advertising classes at Michigan State University and at the University of Hawaii were asked to participate in the survey in exchange for extra research credit. In total, 133 students voluntarily participated in the study. They were randomly assigned to one of four additional conditions: super high and positive valence, super high and negative valence, mega high and positive valence, and mega high and negative valence. Of the participants, ten Korean international students were excluded from the main analyses. Therefore, the responses of 123 students were used in the analysis. In addition, the study 1 data of low and high volume conditions were included in the study 2 data analysis. Thus, 243 participants was the total number for the study 2 data analysis.

Design

The current study used a 4 (volume: low, high, super high, and mega high) × 2

(valence: positive and negative) x 2 (before and after exposure to user ratings) mixed design with volume and valence as between-subject factors. The volume of user ratings was manipulated through low (15 voters), high (350 voters), super high (1050 voters), and mega high (3150 voters) volume conditions. The valence of user rating was manipulated in the same way as in study 1 (i.e., positive valence = one yellow star; negative valence = four yellow stars).

There were 11.5% participants (n = 28) in condition 1 (low volume and positive valence), 10.3% participants (n = 25) in condition 2 (low volume and negative valence), 15.2% participants (n = 37) in condition 3 (high volume and positive valence), 12.3% participants (n = 30) in condition 4 (high volume and negative valence), 23.9% (n = 58) in condition 5 (super high volume and positive valence), 13.2% (n = 32) in condition 6 (super high volume and negative valence), 6.2% (n = 15) in condition 7 (mega high volume and positive valence), and 7.4% (n = 18) in condition 8 (mega high volume and negative valence).

Stimulus and Measurement

Study 2 used only one movie, *Secret Sunshine* (drama), as a stimulus material, unlike study 1, which used three movies (comedy, drama, and horror). A larger font size and different colors indicating volume (i.e.1050 voters and 3150 voters) were used to make the volume of user ratings more noticeable for participants in the super high and mega high volume conditions.

The procedure and measurements of study 1 were the same as in study 2. Table 4 reports the reliabilities, means, standard deviations, and correlations of all variables.

Table 4. Reliabilities, Means, Standard Deviations, and Correlations of Variables of Study 2.

	Self Rating before Exposure	Others' Rating before Exposure	Self Rating after Exposure	Others' Rating after Exposure	Perceived Effect on Self	Perceived Effect on Others	Willingness	Fear of Isolation	Self-Censor
Self Rating before Exposure	.91								
Others' Rating before Exposure	.54**	.87							
Self Rating after Exposure	.82**	.51**	.91						
Others' Rating after Exposure	.21**	.34**	.47**	.93					
Perceived Effect on Self	.22**	.12	.21**	.02	.90				
Perceived Effect on Other	.28**	.17**	.25**	.19**	.61**	.96			
Willingness to Express Opinion	.40**	.22**	.39**	.16*	.19**	.23**	.74		
Fear of Isolation	.14*	.01	.13	.14*	.13*	.13*	.08	.74	
Self-Censor	.02	-.01	.02	.03	.16*	.15*	-.05	.57**	.81
Total M	3.24	3.07	3.19	3.25	3.08	3.70	2.75	2.91	3.04
SD	(1.05)	(0.87)	(1.03)	(1.23)	(1.38)	(1.34)	(1.09)	(1.25)	(0.90)

*p <.05, **p< .01, *df* ranged from 238 to 241

Reliabilities (Cronbach's α) are reported on the diagonal.

Table 5. Means and Standard Deviations of Study 2 Experimental Conditions.

	Low Volume		High Volume		Super High Volume		Mega High Volume	
	Negative Valence	Positive Valence	Negative Valence	Positive Valence	Negative Valence	Positive Valence	Negative Valence	Positive Valence
Perceived effect on self	2.85 (1.21)	2.73 (1.38)	3.50 (1.46)	3.38 (1.16)	2.83 (1.29)	2.93 (1.32)	3.17 (1.63)	3.51 (1.80)
Perceived effect on others	3.69 (1.32)	3.60 (1.31)	3.80 (1.35)	4.16 (0.96)	3.60 (1.47)	3.51 (2.11)	3.56 (1.69)	3.62 (1.84)
total	3.27 (1.14)	3.16 (1.26)	3.65 (1.24)	3.77 (0.91)	3.22 (1.26)	3.24 (1.14)	3.36 (1.63)	3.57 (1.56)
Self rating change before and after exposure	0.47 (0.45)	0.44 (0.40)	0.56 (0.37)	0.44 (0.41)	0.49 (0.51)	0.38 (0.36)	0.56 (0.66)	0.45 (0.43)
Other rating change before and after exposure	0.84 (0.79)	1.13 (0.93)	0.91 (0.95)	0.95 (1.03)	0.61 (0.62)	1.00 (0.98)	0.68 (0.59)	0.77 (0.62)
total	0.66 (0.48)	0.79 (0.52)	0.74 (0.56)	0.69 (0.62)	0.56 (0.47)	0.69 (0.51)	0.62 (0.53)	0.61 (0.44)
Willingness to express opinions	2.57 (1.18)	2.59 (1.03)	2.88 (1.00)	2.74 (1.05)	2.76 (1.16)	2.75 (1.11)	2.74 (1.21)	3.07 (1.02)
	n = 25	n = 28	n = 30	n = 37	n = 32	n = 57	n = 18	n = 15

Note. Standard deviations are reported in the parentheses.

Study 2 Results

The analyses here focused on the effect of the four volume conditions. Table 4 reports means and standard deviations of the TPE 1, TPE2, and willingness to express opinions in each experimental condition.

The Third Person Effect of User Ratings on Self and Others

It was predicted that user ratings would be perceived to have a greater effect on others than on self (H1), especially if user ratings showed high volume rather than low volume conditions (H2), and if the more likely user ratings would be to differ from participants' own rating (H3). To test hypothesis 1, 2, and 3, three sets of ANOVA analyses were conducted on TPE 1 and TPE 2 as dependent variables.

Overall Third Person Effect (H1). In analysis 1 (TPE 1), a 2 (target: self and others) × 4 (volume: low, high, super high, and mega high) × 2 (valence 1: positive and negative) mixed ANOVA was conducted to compare the perceived effect of user ratings on the target (self and others). The analysis revealed a significant main effect for target, $F(1, 233) = 48.76, p < .001, \eta^2 = .04$. Consistent with H1, the perceived effect of user ratings on others ($M = 3.69$, $SD = 1.34$) was significantly higher than on self ($M = 3.08$, $SD = 1.38$).

In analysis 2 (TPE 2), a 2 (target: self and others) × 4 (volume: low, high, super high, and mega high) × 2 (valence 1: positive and negative) mixed ANOVA was conducted to compare self rating change and other rating change before and after exposure to user ratings. The analysis revealed a significant main effect for the target, $F(1, 234) = 39.49, p < .001, \eta^2 = .06$. Other rating change before and after exposure to user ratings ($M = 0.89$, $SD = 0.88$) was significantly greater than self rating change ($M = 0.46$,

SD = 0.43).

Volume (H2) and valence 1. In analysis 1 (TPE 1), the analysis did not reveal a significant main effect for volume, $F(3, 233) = 2.54, p = .06, \eta^2 = .02$, and did not show a significant main effect for valence, $F(1, 233) = 0.09, p = .77, \eta^2 = .00$. Thus, people's different perceptions of user ratings on self and others were not affected by the volume and valence of user ratings. Volume and valence 1 did not interact significantly, $F(3, 233) = 0.16, p = .92, \eta^2 = .00$. Volume did not interact with the target (perceived effect on self and others), $F(1, 233) = 1.86, p = .14, \eta^2 = .004$, and valence did not interact with the target, $F(1, 233) = 0.01, p = .99, \eta^2 = .00$. The three-way interaction among volume, valence, and the target was not significant, $F(1, 233) = 1.30, p = .28, \eta^2 = .003$.

In analysis 2 (TPE 2), the analysis did not reveal a significant main effect for volume, $F(3, 234) = 0.64, p = .59, \eta^2 = .00$, and did not show a significant main effect for valence, $F(1, 234) = 0.48, p = .49, \eta^2 = .00$. Therefore, inconsistent with H2 and H3, the before and after rating change was not affected by the volume and valence of user ratings. Volume and valence did not interact significantly, $F(3, 234) = 0.45, p = .72, \eta^2 = .00$. Volume did not interact with target (self rating change *versus* other rating change), $F(1, 234) = 0.84, p = .47, \eta^2 = .00$. The three-way interaction among volume, valence, and the target was not significant, $F(1, 234) = 0.39, p = .76, \eta^2 = .00$. The two-way interaction between valence and the target was significant, $F(1, 234) = 5.31, p = .02, \eta^2 = .009$. The extent to which other rating change was larger than self rating change was greater in the positive valence condition (other rating change $M = 0.99$, $SD = 0.95$ *versus* self rating change $M = 0.42$, $SD = 0.39$, $t[130] = 6.85, p < .001, \eta^2 = .26$) than in the negative valence condition (other rating change $M = 0.77$, $SD = 0.76$ *versus* self rating change $M =$

0.52, $SD = 0.49$, t [130] = 3.35, $p = .001$, $\eta^2 = .10$).

Valence difference (H3). With regard to the effect of valence difference between user ratings and self rating (valence 2), H3 predicted that, as the difference between the user ratings and people's own ratings increased, the self-other gap of user rating effect would increase. Overall, valence 2 was not significantly related to the difference between the perceived effect of user ratings on self and others (D-TPE 1), r (239) = .01, $p = .90$, and it was not significantly related to the difference between self rating change and other rating change before and after exposure to user rating (D-TPE 2), r (240) = .05, $p = .49$. When correlations were conducted for each volume condition, these statistically insignificant correlations between valence 2 and D-TPE 1 and between valence 2 and D-TPE 2 did not change across low, high, super high, and mega high volume conditions.

Willingness to Express One's Opinion

To further examine the effects of volume, a 4 (low, high, super high, and mega high volumes) × 2 (positive and negative valences) between-subject ANOVA was conducted on willingness to express opinion. The results showed no main effect for volume, F (3, 242) = 0.70, $p = .55$, $\eta^2 = .00$, no main effect for valence, F (3, 242) = 0.11, $p = .74$, $\eta^2 = .00$, and no interaction effects for volume and valence, F (3, 242) = 0.34, $p = .80$, $\eta^2 = .00$. The data were inconsistent with hypothesis 5, which predicted that, as the volume of user ratings increased, people's willingness to express their opinions would be reduced.

When valence 2 and the difference between perceived effect on self and others were examined for their relationships with willingness to express opinions across the four volume conditions, none of the correlations were significant.

SUMMARY OF THE FINDINGS OF STUDY 1 AND STUDY 2

The results of study 1 confirmed the overall Third Person Effect of user ratings in that the perceived user rating effect on others (TPE 1) was significantly higher than on self, and the other rating change was significantly larger than the self rating change before and after exposure to the user ratings (TPE 2).

Inconsistent with H2, however, both TPE 1 and TPE 2 were not affected by the volume of user ratings. People's perceived effects of user ratings on self versus others did not differ in the high or in low volume conditions. For the observed rating change, the overall change was larger in the low volume condition than in the high volume condition. In addition, other rating changes in the low volume conditions were larger than in the high volume conditions, while participants' self rating remained the same before and after exposure to user ratings.

The valence of user ratings did not affect the perceived effects on self and others (TPE 1), but they did affect the observed changes of self ratings and other ratings (TPE 2). The overall change (the average of self change and other change) was larger in the negative valence condition than in the positive valence condition.

The valence difference between user ratings and self ratings (valence 2) did not predict the difference in the perceived user rating effects on self and others (D-TPE 1), but it was a significant predictor of the difference in self rating change and other rating change (D-TPE 2). For D-TPE 1, valence difference was a significant and positive predictor in the high volume condition but not in the low volume condition. Only in the high volume condition was the extent to which user ratings differed from self rating positively associated with the extent to which the perceived effect of user ratings was

greater on other than on self. On the other hand, valence difference was a significant predictor for the difference in self rating change and other rating change (D-TPE 2). The greater the difference people perceived between the user ratings and their own ratings, the more likely they were to perceive that other ratings would change to a greater extent before and after exposure to user ratings.

The results showed that participants' perceived effect on others was a significant predictor of willingness to express their opinions. As individuals perceived others were greatly influenced by the user ratings, they were more willing to express their opinions. In addition, as the tendency to minimize the perceived effect on self and to maximize the perceived effect on others was stronger, their willingness to express their own opinion also was stronger. Finally, the valance difference between user ratings and individuals' own ratings affected their willingness to express their opinions with relation to the manipulated valence of user ratings. In the negative valence condition, as the more likely individuals' self ratings would be to different from the user ratings, the more willing they were to express their opinion; however, in the positive valence condition, they were less willing to express their opinions when greater difference existed between individuals' self rating and the user ratings.

Study 2 was conducted to further test the effect of the volume of user ratings by adding 2 more high volume conditions. TPE 1 and TPE 2 were not affected by the volume and valence of the user ratings. Finally, the volume of user rating was not a significant predictor of willingness to express one's opinion.

DISCUSSION

The purpose of this study was to explore the formation process of online user ratings of movies by focusing on the relationship between individuals' perceptions of the results of online user ratings as public opinions and willingness to express their opinions. Based on the Third Person Effect theory, it was predicted that people may perceive that the online user ratings have great effects on others but not on themselves. Especially when the online user ratings were perceived as public opinions and when the results of user ratings were not agreeable with individuals' own opinions, people may tend to minimize the user rating effects on self and to maximize the user rating effects on others. In addition, peoples' concerns for the perceived user rating effects on others could act as a motivation to express their opinions on online user ratings, especially when they perceived that the results of the online user ratings were different from their opinions. In order to test the third person effect of online user ratings and their role as a moderator of willingness to participate in user ratings, online survey about Korean movies with manipulated user ratings was conducted.

The results indicated that people perceived the user ratings to have greater effects on others than on themselves. Moreover, how observed peoples' own ratings and others' imagined ratings changed before and after exposure to user ratings supports this tendency. People indicated that other rating changes would be larger than their rating change before and after exposure to user ratings. The volume of user ratings did not affect the self-other gap of perceived effects and self and others' observed rating changes; however, the valence difference between user ratings and individuals' own ratings influenced the gap of self and other rating changes. That is, as the more people perceived

the results of online user ratings to disagree with their own opinions, the more they tended to minimize the effects of user ratings on themselves and to maximize the effect of user ratings on others. Thus, the other rating change was greatly larger than the self rating change.

The Spiral of Silence theory argues that people who perceived their opinion to be in the minority may be less willing to express their opinion due to fear of isolation from others; however, the current study assumed that there may be a difference between peoples' willingnesses to express their opinions in off-line situations and on-line situations. On the Internet, people may have less fear of isolation than in off line conversations due to the main characteristic of the virtual world, anonymity. At this point, the current study questioned what the motivation is for people to have more or less willingness to express their opinions on the Internet. With relation to the argument of the Third Person Effect theory, it was predicted that people whose own ratings were greatly different from the valence of user ratings would be more willing to participate in user ratings in order to change the undesirable results of the user ratings due to concern for great user rating effects on others.

Consistent with the prediction, a relationship between peoples' perceptions of the effect of user ratings on others and their willingness to express their opinions was observed. People's concern for the perceived effect of user ratings on others was a significant predictor of their willingness to express their opinions. As more people tended to minimize the perceived effect of user ratings on self and tended to maximize the perceived effect of user rating on others, the more they were willing to express their opinions. Finally, only in negative valence conditions the valence difference between

user ratings and individuals' self ratings positively predicted willingness to express their opinions. As the gap grew between user ratings and self ratings, people were more willing to express their opinions in negative valence user ratings, while they were less willing to express their opinions in positive valence user ratings.

Implications for Public Opinion on the Internet

In research of online user ratings about movies, previous findings have not revealed a direct persuasive effect of the valence of user ratings on people's attitudes toward movies, which should be reflected in box office revenue, and have revealed a positive predictive effect of the volume of user ratings on box office revenues (Dellarocas et al., 2004; Duan et al., 2005; Liu, 2006); however, the current study revealed the positive effects of the valence and did not reveal a predictive effect of the volume user ratings. These contradictory findings came from the different dependent variables between previous research of user ratings and the current study; the dependent variable of previous research was the box office revenue of movies (i.e. people's real behavior to purchase a movie ticket) and the dependent variable of the current study was peoples' willingness to participate in user ratings. Although positive user ratings do not make people purchase movie tickets and negative user ratings do not change people's attitudes toward movies according to the findings of previous studies, they may affect the formation process of user ratings based on the current study. As the current study indicated, online user ratings may affect people's behavior rather than peoples' attitudes. When people perceive user ratings to disagree with their own opinions, they tend to deny the user rating effects on self instead of changing their attitudes about movies; however, people are more willing to participate in user ratings which disagree with their opinions

due to their concerns for others who may be greatly influenced by the results of user ratings.

For the effect of volume, previous research used real user ratings about released movies on real Internet sites from before to after releasing, while this study used manipulated user ratings about unreleased movies. Thus, the volume of real user ratings which were used in previous research included both people's expectations about movies before their release and their evaluations of movies after their release, while the volume of user rating in the current study involved only people's expectations about released movies. In addition, the number of participants of real user ratings could be related to the number of audience members who purchased movie tickets and watched the movies. Thus, the volume of real user ratings could be both an independent variable and a dependent variable, and there might be a strong positive relationship between the volume of user ratings and box office revenues of movies; however, the volume of hypothetical user ratings of the current study was used as an independent variable to affect people's perceptions of user ratings.

The results of study1 and study 2 did not reveal a significant effect of volume of user ratings. It may suggest that people do not pay attention to the volume of public opinion polls when they view the results of public opinion polls. In relation to this phenomenon, Tversky and Kahneman (1974) explained that people use some heuristic principles when they have to judge uncertain events and probabilities. Intuitive judgments depending on heuristic principles are not affected by sample size (Tversky & Kahneman, 1974). That is, when people need to investigate public opinion climate about issues, they easily use the results of online opinion polls, regardless of sample size and whether or not

it provides real public opinion. Similar to opinions polls reported by the mass media, online opinion polls are perceived as the 'public' opinions by people by just being posted on the Internet site (Wu & Weaver, 1997).

While the Spiral of Silence theory explains why people choose to be silent based on their perception of the opinion climate, the current study explained why people choose to speak out due to the interaction between individuals' own opinions and their perceptions of opinion circumstance. As the current study revealed, concerns for others who may be vulnerable to the poll results act as a significant motivation of people's willingness to participate in online polls. In addition, individuals' willingness would be influenced by their perceptions of public opinion climates. When opinion polls showed negative opinion climates, individuals who have positive opinions were more willing to express their opinions; however, when opinion polls showed positive opinion climates, individuals who have negative opinions avoided expressing their opinions. This result provides more specific explanations about why and when people have more or less willingness to express their opinions, which did not fully identify with the Spiral of Silence Theory.

Limitations

The current study may have had some limitations. The first limitation pertains to the stimulus materials. The manipulated user ratings about three Korean movies were used as stimulus for American participants. Although '350 voters' of user ratings was presented as the high volume condition, it could be not enough to represent public at large for study 1. In addition, American participants had little interest in foreign moves ($M = 2.80$, $SD = 1.56$ out of 6 points scales) and in Asian movies ($M = 2.22$, $SD = 1.29$

out of 6 points scales). Only 29.2% (n = 115) of the participants had the experience of watching Asian movies and 70.6% (n = 278) of the participants had never watched Asian movies. Thus, the lower willingness to participate in the user rating about an Asian movie may be due to their lower interests in Asian movies regardless of their perceptions of user rating results. The roles of issue importance, personal involvement, and issue interest need to be investigated as moderators in further research. Finally, although all of the participants were randomly assigned to one of the three movies, their genre preference also might still have influenced the user rating effects on themselves and on others and their willingness to participate in user ratings.

A second limitation is the problem of measurement of willingness to express one's opinion. The current study asked participants to rate about a movie before and after exposure to the user ratings and then measured participants' willingness to participate in user ratings about the movie in imagined on-line situations by using direct questions. This caused two problems. The first problem was that participants had already participated in user ratings, regardless of their willingness. Thus, they may have perceived the questions asking about their willingness to be redundant. The second problem is that there may be a gap between hypothetical on-line situations and real on-line rating situations. In addition, the items asking about willingness to express one's opinion were created for this study, and their reliabilities were only slightly above .70. Thus, they need to be further validated through rigorous testing.

Conclusion

This study addressed an aspect of on-line user ratings as a form of public opinion poll by focusing on people's perceptions of others and its effect on willingness to

participate in user ratings. Further research in this area is needed to investigate how people perceive online opinion polls and why people are more or less willing to participate in them. With increases in the importance of the Internet and the number of Internet users, it is crucial to provide a new paradigm to understand the mechanism of public opinions on the Internet both for scholars and active audiences.

APPENDIX

Questionnaire: The Effect of User Ratings

- Directions: The following picture shows information about a movie. Please read the following information about the movie and answer the questions.

ONE'S OWN RATING BEFORE BEING EXPOSED TO THE USER RATING

Q1. To me, this movie seems to be

1. Interesting
2. Funny*[1]
3. Boring (r)[2]
4. Appealing
5. Impressive
6. Exciting
7. Like a waste of time (r)
8. Ordinary (r)*

Q2: If you were to rate this movie, your rating of this movie would be ____ out of 5.

IMAGINED OTHERS' RATINGS BEFORE BEING EXPOSED TO THE USER RATING

Q3. To other students, this movie seems to be

1. Interesting
2. Funny*
3. Boring (r)
4. Appealing
5. Impressive
6. Exciting
7. Like a waste of time (r)
8. Ordinary (r)*

Q4. If other students were to rate this movie, their rating of this movie would be ____ out of 5.

THE EFFECT OF USER RATING ON SELF AND OTHERS

Directions: The College of Communication Arts & Sciences at MSU is planning on hosting an International Film Festival next year. Various movies from various countries are being considered for the International Film Festival.

For future International Film Festival programs, The College of Communication Arts & Sciences has been collecting students' opinions about foreign movies. These student opinions about foreign movies provide useful information for the movie selection.

The following rating of a movie shows the rating of other MSU students who participated in this survey in last spring and summer semester.

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[1] * indicates deleted items when creating composite variables.

[2] (r) indicated recoded items.

Your rating about this movie will be included in an updated version of this survey for next spring semester. Therefore, other MSU students who will participate in this survey will also see average students' rating and your rating contributes to this average.

Please read students' rating about this movie and answer the questions.

ONE'S OWN RATING AFTER BEING EXPOSED TO THE USER RATING

Q5. To me, this movie seems to be

1. Interesting
2. Funny *
3. Boring (r)
4. Appealing
5. Impressive
6. Exciting
7. Like a waste of time (r)
8. Ordinary (r)*

Q6. If you were to rate this movie, your rating of this movie would be

Q7. How much do you think this rating has affected your rating of this movie?

Q8. How much do you think this rating has affected your attitude about this movie?

Q9. How much do you think this rating has affected your expectations of this movie?

IMAGINED OTHERS' RATING AFTER BEING EXPOSED TO THE USER RATING

Q10. To other students, this movie seems to be

1. Interesting
2. Funny*
3. Boring (r)
4. Appealing
5. Impressive
6. Exciting
7. Like a waste of time (r)
8. Ordinary (r)*

Q11. If other students were to rate this movie, their rating of this movie would be

Q12. How much do you think this rating has affected other students' ratings of this movie?

Q13. How much do you think this rating has affected other students' attitudes about this movie?

Q14. How much do you think this rating has affected other students' expectations of this movie?

Q15. In your opinion, what percentage of students in this class will change their ratings of this movie after being exposed this rating?

WILLINGNESS TO PARTICIPATE IN RATING

1. Do you agree to have your rating of this movie reflected in later versions of this questionnaire for other students in other classes?*
2. If multiple voting was possible, please indicate how many times you would wish to vote in this user rating.*
3. I am willing to post my rating on a web site for this movie.

4. If you were to see information about this move on other website, how much would you wish to participate in a user rating of this movie?
5. If you were to see information about this move on other website, how much would you wish to write a user review of this movie?
6. If your class were to deal with this movie as a discussion topic, how much would you wish to participate in the class discussion?

DEMOGRAPHIC INFORMATION

1. Age _____
2. Gender ____ Male ____ Female
3. Ethnicity (Please check one of the following)

   ____ Caucasian ____ Hispanic
   ____ African American ____ Pacific Islander
   ____ Native American ____ Mixed (Please specify) _____
   ____ Asian American ____ Other (Please pecify)_____
4. If you are an Asian American, which country in Asia do you associate yourself with?
5. Current college standing

   ____ freshman ____ senior
   ____ sophomore ____ 5th year senior (or beyond)
   ____ junior ____ MA student
   ____ PhD student ____ Other (please specify):_____
6. International student _____ yes _____ no
7. If you are an international student, which country are you from?

MOVIE SELECTION BEHAVIOR

1. How often do you watch movies in the theater?
2. How often do you watch movies on a DVD?
3. What is your favorite movie genre? Please indicate one.

   ____ Action ____ Fantasy ____ Comedy
   ____ Romantic comedy ____ Drama ____ Animation
   ____ Horror ____ Others (write in): _____
4. How much interest do you have in foreign movies?
5. How much interest do you have in Asian movies?
6. Have you ever watched Asian movies?
7. If you answered 'yes' to number six, please indicate the names of movies which you have watched recently.
8. How much did you enjoy those Asian movies which you listed in Question 7?
9. Which sources do you usually use to watch movies? Please indicate two sources.

   ____ Television ads ____ Newspaper ads
   ____ Magazine ads ____ Movie websites
   ____ Information from friends ____ Critics' reviews
   ____ User reviews on the Internet ____ Others (write in): _____

10. How important do you consider information about movies from these sources when you decide to watch movies?
    Television ads
    Newspaper ads
    Magazine ads
    Movie sites
    Information from friends
    Critics' reviews
    User reviews on the Internet
    Others
11. With whom do you usually watch movies?
    ____Alone ____Friends ____A date
    ____Family ____Others (write in): _____
12. Why do you watch movies?
13. How do you prefer to watch movies?
    ____ Theater ____ DVD ____ TV
    ____ Internet ____ Others (write in): _____

THE FEAR OF ISOLATION SCALE (Neuwirth, 2000)

1. Those members who are in basic disagreement with a group's ideas ought to be thrown out of the group.*
2. It's better to keep one's friends than to keep one's ideas.*
3. At times, I worry a lot that others might not like me.
4. At times, I worry about being alone.
5. I like to stick to my opinions even though everyone is against me (r).*
6. I'm not worried that, if I really say what I think about things and other people, this will cause me to lose my friends.*

THE WILLINGNESS TO SELF-CENSOR SCALE (Hayes, A. F., Glynn, C. J., & Shanahan, J. 2005).

1. It is difficult for me to express my opinion if I think others won't agree with what I say.
2. There have been many times when I have thought others around me were wrong, but I didn't let them know.
3. When I disagree with others, I'd rather go along with them than argue about it.
4. It is easy for me to express my opinion around others who I think will disagree with me (r).*
5. I'd feel uncomfortable if someone asked my opinion and I knew that he or she wouldn't agree with me.
6. I tend speak my opinion only around friends or other people I trust.
7. It is safer to keep quiet than publicly speak an opinion that you know most others don't share.
8. If I disagree with others, I have no problem letting them know it (r).

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