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Reconsidering the Relationship Between the Third-Person Perception and Optimistic Bias

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Studies disagree as to whether an optimistic bias can account for the commonly observed third-person perceptions. This study aims to help clarify the relationship between third-person perceptions and biased optimism in the context of assessing the impact of the news about bird flu outbreaks in Taiwan. Using a random sample of 1,107 college students, third-person perception and optimistic bias were found to be robust but unrelated. Although both optimistic bias and third-person effect are psychological perceptual judgments that can be attributed to self-serving motivation, the third-person perception is a biased interpretation of media influence, while biased optimistic perceptions are a social psychological mechanism of bolstering self-esteem in self-other comparisons regarding a risk.

Keywords: *third-person effects; optimistic bias; bird flu news; news attention; news elaboration*

In evaluating influence of media content and assessing threats to one's health relative to others, past research in third-person effects and optimistic bias found that self–other comparisons are consistently biased. In the context of rendering media effect judgments on self relative to others, the discrepancy was theorized as the third-person perception (Davison, 1983). In the context of assessing risks, optimistic bias has been proposed to articulate the self–other perceptual gap (Weinstein, 1980). Both the third-person perception and optimistic bias were found to be a robust phenomenon in two established but separate bodies of literature related to media effects (Paul, Salwen, & Dupagne, 2000; Perloff, 1993, 1999) and risk communication (Weinstein, 1987, 1989; Weinstein & Klein, 1996).

Nevertheless, how third-person perception is related to optimistic bias is underresearched, and the linkage between the two theoretical frameworks remains unclear. Some scholars (Brosius & Engel, 1996; Chapin, 2000; Gunther, 1991; Gunther & Mundy, 1993; Perloff, 1999) proposed that optimistic bias is a probable cause of the

third-person perception. Others (Salwen & Dupagne, 2003) contended that the third-person perception was a unique media effect. Our purpose is to reconsider the relationship between the third-person perception and optimistic bias, with a goal to resolve the issue by demonstrating that the underlying processes of social judgment of third-person perceptions and optimistic bias may be the same, but optimistic bias is not a root cause of the third-person perception. To do so, we focused on variables that past third-person research has neglected (such as news attention and elaboration) to investigate the influence of cognitive variables on perceived media effects on self and others. Moreover, we examined the perceived influence of media coverage on self's behavioral intention in response to the perceived effect on self relative to others.

We used the news of bird flu outbreaks in Taiwan as the site to collect data. As many as 173 people were diagnosed with bird flu worldwide; among them, 93 died by February 2006 (World Health Organization, 2006). In China, 35 outbreaks of bird flu occurred after 194,000 poultry were infected in 2005 ("Chinese Health Officials," 2006). Although no outbreak was reported in Taiwan, residents on the island were in panic due to its proximity to China. The bird flu epidemic was widely covered in Taiwan's news media. In addition, reports about a possible shortage of Tamiflu (the antiviral drug considered to be the best way to combat a bird flu outbreak) resulted in a rush to stock the vaccine and an attempt to produce the antiviral drug without a patent in Taiwan. The coverage of bird flu was the focus of our study because the coverage was timely and extensive. More important, the public health threat caused fear and had a significant impact on the population. Thus, people were highly aware of the threat, which led to high levels of concern. Under such a circumstance, they were motivated to process bird flu news, taking the news seriously and might be influenced by the news. Also, bird flu provided a rare chance to examine optimistic bias because it was a real public health risk, which forced them to respond to it by reasoning with chances of being hit and deciding whether to take prevention.

Set in the context of the feared outbreak of bird flu, we examined the perceived impact of bird flu news and public perceptions about the risk of infection, as well as peoples' behavioral intention in response to the perceptions. Then, using multiple regression procedures, we compared differences in predictors of the third-person effect and biased optimism to demonstrate the two phenomena are parallel processes involving different mechanisms.

Literature Review, Hypotheses, and Research Question

Third-Person Effects

In examining the indirect impact of media content on audience, the third-person effect hypothesis proposes that people tend to perceive mass media as having a

greater effect on others than on self (Davison, 1983). As Davison (1983) put it, "people will tend to overestimate the influence that mass communications have on the attitudes and behavior of others" (p. 3) Thus, the perceptual component of the third-person effect hypothesis states that people tend to perceive mass media messages to have a greater impact on others than on themselves. Gunther (1991) characterized it as "what we think others think" (p. 355). Further, the hypothesis holds that the third-person perception predicts support for censorship of socially undesirable media content (Gunther, 1995; Rojas, Shah, & Faber, 1996). Thus, the third-person effect hypothesis includes the perceptual and behavioral components.

A large body of literature overwhelmingly supports the perceptual component (see Paul et al., 2000; Perloff, 1993, 1999). Gunther and Mundy (1993) concluded that when a message was perceived to be nonbeneficial and involved large risks, the third-person perception would be unequivocal. Considering that the coverage of bird flu outbreaks in China was extensive and ongoing for several months in Taiwan's news media, it was an advantageous opportunity to investigate people's susceptibility to the influence of the coverage. We proposed the first baseline third-person hypothesis:

Hypothesis 1 (H1): Respondents will consider themselves to be less likely than others to be influenced by news about bird flu.

Optimistic Bias in Risk Perceptions

In assessing risks, especially the probability of encountering negative life events such as contracting diseases, people tend to make assessments comparatively (Klein & Helweg-Larsen, 2002; Weinstein, 1987, 1989) and believe that they are less vulnerable to risks than others. This phenomenon of biased optimistic perception was theorized in risk communication as optimistic bias (Weinstein, 1980; Weinstein & Klein, 1996). Gouveia and Clark (2001) defined it as a psychological tendency that people will think they are less likely to experience negative future events but more likely to experience positive future events as compared to others.

Optimistic bias was found in numerous studies examining perceptions of risks in a variety of health-related contexts (Helweg-Larsen & Shepperd, 2001; Klein & Helweg-Larsen, 2002). These risks included responses to the severe acute respiratory syndrome (SARS) outbreaks (Ji, Zhang, Usborne, & Guan, 2004) and bioterrorism (Salmon, Park, & Wrigley, 2003). Given the proximity of Taiwan to China, the threat of a bird flu outbreak was real. We anticipated people would assess the risk of infection in the event of an outbreak for themselves and others differently in another baseline hypothesis.

Hypothesis 2 (H2): Respondents will perceive themselves less likely than other people to get infected with bird flu in the future.

The Relationship Between the Third-Person Perception and Optimistic Bias

Under certain conditions, past research has consistently demonstrated the third-person perception. No single psychological cause exists to explain it, however. One of the broad theoretical approaches to explain the process of third-person perception is the motivational perspective, which views the third-person perception fundamentally as a self-serving bias (Perloff, 1993). We note that biased optimism is a particularly popular explanatory framework, attempting to explain the third-person perceptual gap through the motivational mechanism of self-serving bias (David & Johnson, 1998; Gunther & Mundy, 1993; Henriksen & Flora, 1999; Perloff, 1999; Rucinski & Salmon, 1990). Several scholars (Brosius & Engel, 1996; Culbertson & Stempel, 1985; Gunther, 1995; Lasorsa, 1989) proposed that people's biased optimism or personal optimism helps reinforce self-esteem in evaluating undesirable media messages or experiences of negative life events. Gunther and Mundy (1993) further argued that "a human tendency to see the world through optimistic or self-serving lenses" (p. 58) was the underlying cause of the third-person phenomenon. However, their experiment found only weak support for the proposition. Recently, Peiser and Peter (2000) suggested that the third-person perception as "only one manifestation of a more universal perceptual tendency, extending far beyond media effects" (pp. 26-27). That is, the third-person perception represents a case of optimistic bias.

As a self-serving bias in social comparisons, whereby people tend to believe that negative outcomes are less likely to happen to them than to other people, optimistic bias is arguably rooted in ego-enhancement. People are motivated to reinforce their self-esteem by perceiving themselves more positively than they perceive others (Gunther & Mundy, 1993; Keeney & von Winterfeldt, 1986). Some scholars argued that optimistic bias promotes mental and physical well-being (Block & Colvin, 1994; Taylor & Brown, 1994). But others suggested that it may have harmful consequences because optimistic bias may lead to a failure to take precautions against threats (Hoorens, 1996). Thus, it is appealing to apply biased optimism to account for the third-person perception. Treating optimistic bias explicitly as a variable, two studies tested the assumed link between the third-person perception and optimistic bias. In assessing the influence of safer-sex messages among urban minority youth, Chapin (2000) asked respondents to assess the perceived impact of the messages on themselves and others; he also asked them to rate their likelihood of contracting HIV/AIDS relative to others. When the measures of third-person perceptions and optimistic bias were tested for bivariate correlation, he found a weak, inverse relationship. Salwen and Dupagne (2003) examined the "alleged" relationship (p. 70) between the third-person perception and optimistic bias in responding to news about Y2K problems that had been predicted. Their study also used bivariate analysis between third-person perceptions and biased optimism. They found that the perceived influence of Y2K coverage was not related to optimistic bias about the

likelihood of being hit by Y2K bugs. To demonstrate that the third-person perception and optimistic bias are two different social psychological processes, Salwen and Dupagne performed regression analyses using demographics, media use, and attitudes toward new technologies as predictors. Results showed mirror opposite blocks of predictors of the third-person perception and optimistic bias. They concluded that the third-person perception was not a media case application of biased optimistic perceptions.

Our study was designed to demonstrate that optimistic bias is not an underlying mechanism of the third-person perception because the third-person perception involves perception of media influence, while optimistic bias is concerned with perceived likelihood of experiencing a risk. To do so, we used a set of predictors of the third-person effect, such as news attention and elaboration, that were not used in previous research. Analytically, partial correlation was used to test the relationship between perceived impact of news about bird flu and perceptions regarding bird flu infections to control for confounding factors in a research question:

Research Question 1: Is third-person perception concerning news about bird flu related to optimistic bias regarding the probability of bird flu infections?

Predictors of the Third-Person Perception and Optimistic Bias

If the third-person perception is fundamentally a social judgment concerning effects of media messages, while optimistic bias is a psychological mechanism to sustain one's positive image in evaluating risks of experiencing negative life events, predictors of the third-person perception and optimistic bias would differ. Based on this line of reasoning, we anticipate that news information processing variables (e.g., attention and elaboration) will be significant predictors of third-person perception concerning bird flu news, while self-efficacy will be a significant predictor of optimistic bias. Salwen and Dupagne (2003) identified two sets of distinctive predictors. The third-person perceptual effect was mostly predicted by the block of perceived attributes of news media. In comparison, optimistic bias was explained mostly by media use and demographics. We followed their approach but used two different sets of predictor variables that would respectively predict the third-person perception and optimistic bias.

First, previous studies demonstrated that attention and elaboration are key information processing variables that affect audience learning from the news (Eveland, 2001, 2002; Eveland, Shah, & Kwak, 2003). The rationale is that when people are motivated to process information about a news event, they are more attentive to media messages and more likely to engage in the elaborative processing of the messages, which leads to a greater impact in terms of acquiring a greater amount of information from the news media.

Attention represents a cognitive process that allocates one's mental energy and effort to the incoming stimulus or messages (Perse, 2001). Attention enables an individual to focus on specific content, enhancing the impact of media messages (Chaffee & Schleuder, 1986). Existing research confirmed that the impact included political learning (Chaffee & Schleuder, 1986; Eveland, 2001; Moy, McCluskey, McCoy, & Spratt, 2004), information retrieval (Cowan, 1995), and risk judgments (Slater & Rusinski, 2005). Further, elaboration has been recognized as another key mental process that relates incoming information to existing knowledge, leading to greater impact (Eveland, 2002; Perse, 2001). Past studies have demonstrated that the outcome measures of this elaboration-driven process were learning (Beaudoin & Thorson, 2004; Eveland, 2001, 2002; Eveland & Dunwoody, 2002), viewing motivation (Perse, 1990), and greater resistance to counterpersuasion (Petty & Cacioppo, 1986).

The extensive and overwhelming coverage about bird flu served as stimuli to the audience. Those who paid more attention to such news would likely elaborate on the ramifications. The more people engaged in elaboration of bird flu news, the more likely they would think about the impact of such news on self and others. Elaborative processing helped create additional ways of relating the news about bird flu to prior knowledge about public health threats such as the SARS outbreak in 2003. Thus, the more cognitive efforts an individual took to evaluate the implications and think about consequences of the bird flu news and prior public health threats for himself or herself and others, the more potent the information processing variables would be in predicting the perceived impact of the news coverage of bird flu.

Hypothesis 3 (H3): News attention and news elaboration will be significant predictors of the third-person perception concerning bird flu news.

Second, although optimistic bias is widely observed, it is a poorly explained phenomenon. Self-efficacy, which refers to confidence that individuals feel about their ability to overcome barriers to perform a behavior (Bandura, 1986, 1997, 2001), is one of the few valuable variables routinely included in studies of optimistic bias (Chapin, de las Alas, & Coleman, 2005). According to social cognitive theory, those with higher self-efficacy tend to believe they are capable of completing a challenging task and are likely to engage in the challenge (Torkzadeh & van Dyke, 2001). Conceptually, both self-efficacy and optimistic bias deal with the assessment of self in performing a task. The difference is that self-efficacy concerns the perceived ability of self only, while optimistic bias also involves a social comparison process. In comparing self with others, the motivation of inherent feelings of being superior (Mead, 1934) applies. In addition, optimistic bias typically concerns assessments of negative life events and threats to one's well-being.

Moreover, past risk communication research has found self-efficacy to be a reliable moderator of optimistic bias (Chapin et al., 2005; Klein & Helweg-Larsen, 2002; Rimal, 2002). The higher the level of self-efficacy, the greater the bias in being

optimistic. Studies in health communication reported that individuals with low self-efficacy to control a condition tended to feel powerless and fatalistic (Solomon, 2003). Consequently, they would not do anything to change the outcomes of the disease (Crowell & Emmers-Sommer, 2001; Green, Lewis, Wang, Person, & Rivers, 2004; Witte, 1992). Conversely, in face of a health threat, people of high level of self-efficacy will be likely to do early detection and seek disease control (Aiken, Fenaughty, West, Johnson, & Luckett, 1995). Surveying 587 emergency medical personnel, Chapin (2006) found that self-efficacy was among the best predictors of optimistic bias.

Hypothesis 4 (H4): Self-efficacy will be a significant predictor of optimistic bias regarding bird flu infections.

Further, we propose that attention to and elaboration of bird flu news will be stronger predictors of the third-person perception concerning news about the disease than self-efficacy, while self-efficacy will be a stronger predictor of optimistic bias about bird flu infection than third-person perception concerning bird flu news. As we mentioned earlier, news attention and news elaboration would be significantly related to third-person perception. On the other hand, the third-person effect research rarely singles out self-efficacy as a major predictor. Studies (Coleman, 1993) that did include it found self-efficacy as a significant but weak predictor of third-person perceptions. In assessing the influence of Internet pornography among United States and South Korean college students, Lee and Tamborini (2005) found that the impact of Internet self-efficacy on the third-person perception was weak. It appears that the weak effect of self-efficacy on the perceptual gap between self and others is because of the possibility that self-efficacy impacts directly on the efforts one puts into learning from news media. Knowledge, in turn, directly impacts on the third-person perceptual gap. Past studies have shown that higher level of knowledge results in stronger third-person perceptional bias (Atwood, 1994; Lasorsa, 1989; Salwen & Driscoll, 1997; Wei & Lo, 2006; White & Dillon, 2000).

Hypothesis 5 (H5): Information processing variables (e.g., news attention and news elaboration) will be stronger predictors of the third-person perception concerning bird flu news than optimistic bias regarding bird flu infections.

Hypothesis 6 (H6): Self-efficacy will be a stronger predictor of optimistic bias regarding bird flu infections than third-person perception concerning bird flu news.

The Behavioral Consequence of the Third-Person Perception

Finally, in the behavioral domain of the third-person effect, the theoretical assumption of previous research rests on the fear that undesirable media messages will make people believe that others will be more affected by the messages than they

are (Davison, 1996). The third-person effect hypothesis holds that perceptions of media effect on others, relative to self, predict support for restrictions on controversial media content (Gunther, 1995; Rojas et al. 1996). The perceived media effect on self is a particularly reliable predictor of behavioral outcomes (Lo & Wei, 2002; Wei & Lo, 2006). A large number of third-person effect studies suggest that people who tend to overestimate the media effect on others are more likely to support the restrictions on media content (primarily negative or controversial content) for the sake of protecting others (Gunther, 1991; Salwen, 1998). The behavioral outcomes were broadened in recent research to include an increase in the desire to be slim (Park, 2005) and the likelihood of developing an eating disorder (David & Johnson, 1998). Accordingly:

Hypothesis 7 (H7): Third-person perception variables will be significant predictors of behavioral intention regarding bird flu.

Furthermore, as mentioned earlier, amidst the saturated coverage of bird flu outbreaks in China, a shortage of Tamiflu made news in Taiwan. The shortage resulted in the public stockpiling the antiviral drug among those who were perceived to be more impacted by the news. In contrast, past risk communication research showed that people who believe they are less prone to experience negative life events are less likely to take protective action (Chapin, 2000). In addition, optimistic bias may even make people ignore or underestimate their actual risks, leading to lower intentions to seek information (Chapin, 2001). Thus, in the context of assessing the risk of being infected by bird flu, people with high optimistic bias would probably do nothing about it. Accordingly, the differences in behavioral intention responding to potential bird flu outbreaks and a shortage of Tamiflu offered another dimension to demonstrate that the third-person effect and optimistic bias involve distinctively different mechanisms.

Hypothesis 8 (H8): Third-person perception variables will be stronger predictors of behavioral intention regarding bird flu than optimistic bias variables.

Method

Data used for this study came from a large-scale survey using a probability sample of college students in Taiwan. Use of nonprobability samples, college students in particular, was criticized for possible skewing of findings and limiting generalization (Courtright, 1996). In addition, past research shows that nonrandom samples tended to yield greater third-person perceptions than random samples (Paul et al., 2000). By drawing a probability sample, we eliminated self-selection bias and ensured external

validity of findings. Using a multistage cluster sampling plan, respondents were drawn from 10 randomly selected colleges from a pool of 44 colleges in Taipei, Taiwan. Three classes were randomly chosen from each of the 10 colleges. With prior permission of instructors, self-administered questionnaires were distributed in the selected classes during a 2-week period in December 2005. Participation was voluntary; respondents were given assurances of confidentiality and anonymity. Of the 1,201 students selected in the sample, 1,107 (92.2%) completed the survey.

Of the sample, 46.5% were male and 53.5% were female. The gender ratio was basically even. Their average age is 20.4 years old (SD = 1.77). The distribution of years of study was also even. More than one fifth (21.6%) were freshmen, followed by sophomores (30.7%), juniors (23.9%), seniors (23.2%), and unknowns (0.6%).

Measurement

Perceived effects on self and others. Respondents were first asked to indicate (1) whether the media coverage of bird flu outbreaks made "you" feel more concerned about the disease and (2) if the coverage influenced "you." Both questions used a 7-point Likert-type scale. A measure of perceived effect on self was created by adding the two items and dividing by two (M = 4.46, SD = 1.22, r = .75). The measure of perceived effect of bird flu coverage on others consisted of two parallel items (replacing "you" with "others.") These two items were added and divided by two to form an index of perceived effect on others (M = 5.01, SD = .85, r = .68).

Third-person perception. Differences in scores between the perceived effect on self and others were computed to measure the third-person perception (M = .56, SD = 1.17).

Perceived risk of self and others. Respondents were then asked to rate the likelihood on a 7-point scale from 1 (*very unlikely*) to 7 (*very likely*) and the probability using a 6-point scale, ranging 0 (*0%*), 1 (*0% to 20%*), 2 (*more than 20% to 40%*), 3 (*more than 40% to 60%*), 4 (*more than 60% to 80%*), and 5 (*more than 80% to 100%*), of being infected with bird flu in the near future with reference to themselves and others. To construct an index, we transformed the two items into standard (z) scores. The two "self" items were added and divided by two to form an index of perceived risk of self (M = 2.01, SD = .98, r = .51). The two "others" items were added and divided by two to form an index of perceived risk of others (M = 2.55, SD = 1.34, r = .50).

Optimistic bias. Differences in scores between perceived risk of self being infected with bird flu and others were computed to measure optimistic bias (M = .55, SD = .85).

Attention to bird flu news. Respondents were asked to indicate how often they paid attention to news about bird flu in newspapers, on TV, and on the Internet, respectively. The 4-point response categories ranged from 1 (*never*) to 4 (*frequently*). Results of exploratory factor analysis confirmed that the three items were loaded in a single factor. The one-factor solution explained 68.21% of the variance (eigenvalue = 2.78). A composite measure of news attention was constructed by adding the three items and dividing by three ($M = 2.56$, $SD = .65$, $\alpha = .75$).

Elaboration of bird flu news. Elaboration refers to issue-relevant thinking or the inclination to think about a message (Petty & Cacioppo, 1986). To assess it, respondents were asked to indicate their agreement with four statements on a 5-point Likert scale from 5 (*strongly agree*) to 1 (*strongly disagree*): (a) I often try to relate what I see in the news to my own personal experiences; (b) I often think about how what I see in the news relates to other things I know; (c) After seeing news reports about bird flu, I have thought about the consequences of the disease; and (d) After seeing news reports about bird flu, I have tried to relate them to the SARS crisis. An exploratory factor analysis showed that the four items grouped in a single factor, indicating that they measured a single underlying concept (eigenvalue = 2.36, accounting for 59.02% of the variance). The four items were added and divided by four to create a composite measure of elaboration ($M = 3.31$, $SD = .72$, $\alpha = .76$).

Self-efficacy. Respondents were asked to indicate their agreement with the following four statements reflecting their efficacy to cope with the threat of bird flu: (a) I believe I can prevent myself from getting bird flu, (b) I believe that there are ways of reducing my likelihood of being inflected with bird flu, (c) I believe that I will actively take action to reduce the chances of being infected with bird flu, and (d) I believe that I will be on the alert not to be infected with bird flu. The 5-point Likert scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Results of an exploratory factor analysis showed that the four items grouped in a single factor (eigenvalue = 2.78, accounting for 69.91% of the variance). The four items were added and divided by four to create a composite measure of self-efficacy ($M = 3.51$, $SD = .68$, $\alpha = .85$).

Intention to seek information. Respondents were asked to indicate whether they agreed that they would do these things after exposure to the news about bird flu outbreaks in China: (a) search for information about bird flu and (b) search for information about how to avoid being infected with bird flu. They were further asked to indicate whether they agreed that they would consider doing the following after exposure to the news about a shortage of Tamiflu in Taiwan: (a) search for information about Tamiflu and (b) search for information about how to prevent from getting bird flu. The scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Exploratory factor analysis showed that the four items were grouped in a single

Table 1
Mean Estimates of Perceived Effects of Bird Flu Coverage on Self and Others

Samples	*n*	Self	Others	*t* Values
Concerned about bird flu	1,096	4.53 (1.28)	4.96 (1.24)	11.28***
Influenced by media coverage	1,093	4.38 (1.34)	5.07 (1.20)	16.35**
Combined effect	1,093	4.46 (1.22)	5.02 (1.20)	15.77***

Note: Standard deviations are in parentheses.
**$p < .01$. ***$p < .001$.

factor. The solution explained 79.81% of the total variance (eigenvalue = 3.19). A composite measure of intention to seek information was created by adding the four items and dividing the sum by four ($M = 2.98$, $SD = .82$, $\alpha = .92$).

Intention to take prevention. Respondents were asked to indicate whether they agreed that they would have a vaccine shot against bird flu after exposure to the news about bird flu outbreaks in China. Respondents were also asked to indicate whether they agreed that they would consider trying to purchase Tamiflu after exposure to the news about a shortage of Tamiflu in Taiwan. The 5-point scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). A composite measure was created by adding the two items and dividing the sum by two ($M = 2.57$, $SD = .81$, $r = .65$).

Control variables. Respondents self reported the number of days per week they read newspapers and the estimated amount of time spent reading newspapers per day. A newspaper reading index was created by multiplying the number of days per week and reading time per day ($M = 6.15$, $SD = 6.79$). TV news viewing and Internet use were measured similarly, based on which a TV news viewing index ($M = 11.62$, $SD = 9.98$) and an Internet use index ($M = 32.50$, $SD = 20.02$) were constructed. Finally, respondents were asked about their gender, age, and years of study.

Results

H1 predicted that respondents would perceive themselves less likely than others to be influenced by news report about bird flu. Table 1 presents results of paired *t* tests, which supported the third-person perception for both the individual measures and the combined effect index. Respondents perceived the coverage of bird flu to have a greater influence on others than on themselves. H1 was supported.

H2 predicted that respondents would perceive themselves less likely than others to be inflected with bird flu. As results of paired *t* tests in Table 2 show, respondents perceived themselves to be less likely than other people to get bird flu infections. H2 was supported.

Table 2
Mean Estimates of Perceived Risk Concerning Bird Flu Infections of Self and Others

Samples	*n*	Self	Others	*t* Values
Likelihood of getting bird flu	1,095	2.91 (1.31)	3.46 (1.29)	16.74***
Probability of getting bird flu	1,084	1.11 (0.94)	1.65 (1.10)	19.74***
Combined effect	1,082	2.00 (1.31)	2.55 (1.29)	21.26***

Note: Standard deviations are in parentheses.
***$p < .001$.

Regarding the research question exploring the relationship between the third-person perception and optimistic bias, partial correlation was used. Results showed that the third-person perception was not significantly correlated with optimistic bias ($r = .03$, $p > .05$) after controlling for age, gender, media use, self-efficacy, attention to and elaboration of bird flu news.

H3 predicted that attention to and elaboration of bird flu news would be significant predictors of third-person perception concerning bird flu news. Three hierarchical regression analyses were performed to test it. In the equations, the predictors were demographics, media use, self-efficacy, and information processing. The dependent variables included the perceived effect of bird flu news on self, on others, and the third-person perception. As Table 3 shows, with the effect of demographics and media use taking into account, elaboration of bird flu news was consistently a significant predictor of perceived effects of bird flu news on self, on others, and the self–other differential, as was attention to bird flu news in holding predictive power over the perceived effect of bird flu news on self and others, and the third-person perceptual gaps. H3 was supported.

H4 predicted that self-efficacy would be a significant predictor of optimistic bias. To test it, three hierarchical regression analyses were performed in which demographics were entered first, followed by media use, self-efficacy, and information processing. The dependent variables were perceived risk of self, of others, and optimistic bias. As shown in Table 4, after controlling for the effects of demographics and media use, self-efficacy was found to be a significant predictor of perceived risk of self, of others, and optimistic bias. H4 was supported.

H5 predicted that attention to and elaboration of bird flu news would be stronger predictors of third-person perception concerning bird flu news than optimistic bias regarding bird flu infections. To test it, the three hierarchical regression analyses used to test H3 were employed. News elaboration and news attention were found to be the strongest and second strongest predictors of perceived effects of bird flu news on self, on others, and the self-other differential (see Table 3). In contrast, self-efficacy was a significant predictor of perceived effects of bird flu news on self and others only. Additional tests for the difference between two regression coefficients

Table 3
Hierarchical Regression Analysis Predicting Perceived Effects of Bird Flu News on Self, on Others, and the Third-Person Perception

Predictor	Perceived Effects on Self	Perceived Effects on Others	Third-Person Perception
Block 1: Demographics			
Gender	–.09**	–.08*	.02
Age	–.03	–.05	–.02
Adjusted R^2	.02	.02	.00
Block 2: Media use			
Newspaper reading	–.06*	–.07*	.00
TV news viewing	–.03	–.04	–.01
Internet use	–.06*	–.01	.05
Incremental adjusted R^2	.00	.00	.00
Block 3: Self-efficacy			
Self-efficacy	.09**	.06*	–.03
Incremental adjusted R^2	.04	.02	.00
Block 4: Information processing			
News attention	.15***	.08*	–.08*
News elaboration	.41***	.31***	–.14***
Adjusted R^2	.22	.11	.03
Total adjusted R^2	.28	.14	.03

Note: Beta weights are from final regression equation with all blocks of variables in the model. $n = 1{,}023$. *$p < .05$. **$p < .01$. ***$p < .001$.

(Cohen & Cohen, 1983) showed that its standardize beta sizes were smaller than that of elaboration ($t = 7.48$, $p < .01$, for perceived effect on self; $t = 5.35$, $p < .01$, for perceived effect on others; $t = 2.22$, $p < .05$, for the third-person perception). However, the differences between the betas of news attention and self-efficacy were not significant ($t = 1.40$, $p > .05$, for perceived effect on self; $t = .43$, $p > .05$, for perceived effect on others; $t = 1.01$, $p > .05$, for third-person perception). H5 was partially supported.

H6 predicted that self-efficacy would be a stronger predictor of optimistic bias than third-person perception. To test it, the three hierarchical regression analyses used to test H4 were utilized. Self-efficacy proved to be the strongest predictor of perceived risk of self, of others, and optimistic bias (see Table 4). Attention and elaboration were significant predictors of perceived risk of self and others only; their standardized beta sizes were smaller than that of self-efficacy. Additional tests for the difference between two regression coefficients showed that the standardize beta sizes of self-efficacy were greater than attention to bird flu news on perceived risk of self ($t = 3.35$, $p < .01$) and on the third-person perception ($t = 2.40$, $p < .01$). However, the difference between the betas of self-efficacy and attention on perceived

Table 4
Hierarchical Regression Analysis Predicting Perceived Risk Regarding Bird Flu Infections of Self, of Others, and Optimistic Bias

Predictor	Perceived Risk of Self	Perceived Risk of Others	Optimistic Bias
Block 1: Demographics			
Gender	.01	.08*	.09*
Age	–.05	–.03	.02
Adjusted R^2	.00	.00	.01
Block 2: Media use			
Newspaper reading	–.01	–.02	–.00
TV news viewing	–.06*	–.08*	–.02
Internet use	–.06*	–.02	.04
Incremental adjusted R^2	.00	.00	.00
Block 3: Self-efficacy			
Self-efficacy	–.26***	–.15***	.12***
Incremental adjusted R^2	.04	.01	.01
Block 4: Information processing			
News attention	.10**	.10**	–.00
News elaboration	.19***	.13***	–.05
Adjusted R^2	.05	.04	.00
Total adjusted R^2	.10	.05	.02

Note: Beta weights are from final regression equation with all blocks of variables in the model. $n = 1{,}023$. *$p < .05$. **$p < .01$. ***$p < .001$.

risk of others was not significant. The differences between standardized beta sizes of self-efficacy and elaboration were not significant either. H6 was partially supported.

To test H7 and H8, which predicted that the perceived effects of bird flu news on self and others would be significant predictors of behavioral intention and would be stronger predictors of behavioral intention than perceived risks of self and others, two hierarchical regression analyses were performed. Demographics were entered first, followed by media use, self-efficacy, information processing, perceived risk of self and of others, and perceived effects on self and on others. The dependent variables were intention to seek information and take prevention. As results in Table 5 show, with the effects of demographics, media use, self-efficacy, attention, and elaboration being controlled, the perceived effect of bird flu news on self was not only a significant but also the strongest predictor of intention to seek information and take prevention. The standardized beta sizes were three times as large as that of perceived risk of self on intention to seek information ($t = 4.24$, $p < .01$) and take prevention ($t = 2.75$, $p < .01$). But the perceived effect of bird flu news on others was not a significant predictor of the two behavioral intention variables. H7 and H8 were basically supported.

Table 5
Hierarchical Regression Analysis Predicting Behavioral Intention Regarding Intention to Seek Information and Intention to Take Prevention

Independent Variables	Intention to Seek Information	Intention to Take Prevention
Block 1: Demographics		
Gender	.05	.11***
Age	.01	–.01
Adjusted R^2	.00	.00
Block 2: Media use		
Newspaper reading	.04	.05
TV news viewing	–.05*	–.03
Internet use	–.01	.01
Incremental adjusted R^2	.00	.00
Block 3: Self-efficacy		
Self-efficacy	.15**	.09**
Incremental adjusted R^2	.07	.02
Block 4: Information processing		
News attention	.13***	.04
News elaboration	.31***	.13***
Adjusted R^2	.29	.11
Block 5: Perceived risk		
Self	.09**	.19***
Others	.03	.05
Adjusted R^2	.02	.06
Block 6: Perceived effects		
Self	.29***	.34***
Others	.03	–.05
Adjusted R^2	.06	.07
Total adjusted R^2	.46	.28

Note: Beta weights are from final regression equation with all blocks of variables in the model. $n = 1{,}023$. *$p < .05$. **$p < .01$. ***$p < .001$.

Discussion

Consistent with Salwen and Dupagne (2003), our study found that the third-person perception was not related to optimistic bias after controlling for the influence of other variables. More important, we demonstrated that the third-person perception and optimistic bias are two parallel processes of social judgment involving different mechanisms. Using cognitive variables as key predictors of the third-person perception, attention to and elaboration of bird flu news are consistently the strongest predictors of the self–other perceptual gap, with the impacts of demographics and media use being considered. The total variance accounted for the third-person perception is high thanks to use of these theoretically chosen predictors. Moreover, third-person perception variables were found to be more significant predictors than

optimistic bias in predicting behavioral intentions to seek information and take prevention in response to bird flu and Tamiflu. On the other hand, self-efficacy is consistently the strongest predictor of perceived risk of self relative to others with the influence of demographics and media use being controlled for.

These findings provide fresh evidence in support of the proposition that the optimistic bias is not a cause of the third-person perception. Although both optimistic bias and third-person effect are psychological perceptual judgments that can be attributed to the self-serving motivation, the third-person perception is a biased interpretation of media effects within the confines of the media. As we found, news about the bird flu provides stimuli. People who pay a great deal of attention to the news engage in an internalizing process in which they think about what the news means to them and with what impact. This seems to be the ground from which they estimate the impact of bird flu news on themselves compared to others. The more such cognitive efforts are taken, the greater the perceived effect on self and others and the smaller the self–other discrepancy. Though admitting to media influence does not make one look socially superior (Shah, Faber, & Youn, 1999), the concerns over contracting bird flu outweigh the social compensation from self-enhancement. Not surprisingly, they act on the estimates of media impact in deciding whether to take preventative actions. The greater the self–other perceptual gap, the lower the intention to take such action. The greater effect perceived on self, however, the more likely they will take action. The cognitive variables, on the other hand, were weaker predictors of optimistic bias than self-efficacy. The more efficacious respondents are, the less risk perceived for self and others, but the stronger the optimistic bias. These patterns suggest the motivation to bolster self-image is the ground on which different perceptions of risks of bird flu infections on self versus others are based. In addition, as expected, the greater the optimistic bias, the less likely one is to take preventative actions. Optimistic bias seems to be less about processing stimuli from the media, but it represents a psychological mechanism of serving oneself in the self–other comparisons regarding a risk. Hence, involving two different mechanisms, the third-person perception and optimistic bias are processes of social judgment that parallel each other.

In sum, the third-person perception is a biased interpretation of media influence, while optimistic bias involves perceptions of a risk that would have a real-world outcome. As Salwen and Dupagne (2003) put it, a primary difference between optimistic bias and third-person perception is that the former "concerns the likelihood of experiencing an event" and the latter concerns "susceptibility to media message influence about an event" (p. 72). We conclude that it is plausible that the underlying process of third-person perceptions and optimistic bias may be the same (e.g., self-serving), but optimistic bias is not a root cause of the third-person perception.

The theoretical insight of this conclusion is that it is unproductive to attempt to use optimistic bias to explain the third-person perception. It appears that the differential effects in estimating media messages on self relative to others are likely to be

rooted in individuals' perceptions of media effects (e.g., powerful media vs. limited effect), message attributes (e.g., antisocial vs. prosocial), and their presumptions of the traits of others (e.g., general susceptibility and critical media literacy skills). For example, the notion of naïve schema for media effects, which proposes that beliefs of powerful media lead to overestimates of impact on others (David, Liu, & Myser, 2004; McLeod, Detenber, & Eveland, 2001), offers an approach to characterize a layperson's reasoning about perceived media effects. Then the third-person perception may be entirely divorced from optimistic bias.

Findings of our study suggest this likely is the case, as the information processing variables tend to reduce the third-person perceptual gap. Specifically, attention to and elaboration of bird flu news were significant predictors of the third-person perceptual difference, but the beta weights were negative. It appears that respondents who internalized the message about a public health threat were realistic about the threat to themselves and others. Hence, the self–other perceptual difference was smaller. It is plausible that greater cognitive efforts lead to higher learning, which modifies existing media effect schema and creates a new schema, which in turn leads to different estimates of media effects. Unfortunately, our ability to further explore this path is limited by a lack of media effect schema variables. Further research should explore the relationships among information processing variables, media effect schemas, and the third-person perception.

Our study has limitations. First, given the complexity of conditions and causes of third-person effects in communication and optimistic bias in risk communication, factors that may account for the third-person perception are unknown. Though the total variances explained in predicting the third-person perception and optimistic bias were high, our purpose was not to build a comprehensive model to explain third-person perception and biased optimism. Thus, more variables, such as issue involvement and perceived media credibility, need to be incorporated in future research. Moreover, previous studies found that third-person perceptions using student samples tend to be more pronounced (Paul et al., 2000). Follow-up studies might be attempted on a larger and more demographically diverse population to validate the results. Finally, cautions need to be raised regarding the relationships we tested in linear multiple regression analyses. They are by no means causal given the cross-sectional design of our study.

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