



Hichang Cho
Siyoung Chung
Jae-Shin Lee

**Online Privacy and
Risk Judgments**

White Paper Series

Issue 07/01

Communications and New Media Programme
National University of Singapore

A Communications and
New Media Programme Publication

WHITE PAPER SERIES is a publication of the Communications and New Media Programme, Faculty of Arts and Social Sciences, National University of Singapore.

Requests for permission to reproduce the *White Paper Series* should be directed to the Head of the Communications and New Media Programme (cnmhead@nus.edu.sg), National University of Singapore, who may grant the request if back issues are unavailable.

Copyright of this paper resides with the authors and further publication, in whole or in part, shall only be made by authorization of the authors.

Communications and New Media Programme

11 Law Link, AS6 Level 3 • National University of Singapore
Singapore 117589 (65) 6516 - 4671
<http://www.fas.nus.edu.sg/cnm>

Milagros Rivera, Head
mriviera@nus.edu.sg

Hichang Cho
Siyong Chung
Jae-Shin Lee

**Online Privacy and
Risk Judgments:
The influence of mass and
interpersonal communication,
prior experience, and
self-efficacy on societal and
personal level risk judgments**

Hichang Cho is an assistant professor in the Communications and New Media Programme, Faculty of Arts and Social Sciences, National University of Singapore.

Siyong Chung is a visiting fellow in the Communications and New Media Programme, Faculty of Arts and Social Sciences, National University of Singapore.

Jae-Shin Lee is an associate professor at the Department of Mass Communication, Chung-Aung University.

Introduction

New information and communication technologies offer great benefits to our society, but at the same time threaten our sense of security and privacy. A growing number of both individuals and organizations have become the victims of risks related to online privacy (online privacy risks). Surveys (e.g., Consumer Internet Barometer, 2003) show that the percentage of consumers claiming to be concerned about privacy has increased to more than 80%, compared with just over 30% in the 1970s (Dommeyer & Gross, 2003).

A number of studies have examined online privacy issues, gauging the levels of consumer concerns (Caudill & Murphy, 2000; Consumer Internet Barometer, 2003), analyzing legal, policy, and ethical issues (Lotz & Ross, 2004; Metzger & Docter, 2003; Zizi & Jan, 2005), and identifying antecedent factors affecting individuals' perceptions and behavioral responses to online privacy (Bellman, Johnson, Kobrin, & Lohse, 2004; Milberg, Smith, & Burke, 2000; Phillips, 2004; Youn, 2005). However, there has been little investigation into how individuals acquire risk information through different communication sources, and how the communication processes in turn affect the way individuals construct their judgments of online privacy risks. This is surprising, given that there have been many public discussions and media reports concerning online privacy and Internet security, and that many studies of risk implicitly assume that communication plays a critical role in the construction process of risk perception and behaviors (Scherer & Cho, 2002; Slater & Rasinski, 2005).

Given the scarcity of studies examining the role of communication processes in the perception of online privacy risks, this study was undertaken to a) analyze the nature of risk judgments on online privacy, and b) examine how different communication sources (mass and interpersonal communication) and intrapersonal factors (self-efficacy beliefs and prior experiences) influence the way individuals judge online privacy risks. This paper proceeds in four steps. First, we define what online privacy risk is and describe its properties and meanings. Second, we review theoretical frameworks for a better understanding of risk judgments associated with online privacy. Previous studies on risk perceptions and judgments are reviewed with special interest in communication effects to develop the hypotheses for our study. Third, the results of data analysis using survey data (n = 910) are presented and discussed. Finally, the paper ends with a discussion on the important findings and their theoretical and practical implications.

Literature Review

Risk Judgment

Risk has been defined as the things, forces, or circumstances that pose danger to people or to what they value (Bostrom & Lofstedt, 2003), and typically is described in

terms of a likelihood or probability of loss occurring (Stern & Fineberg, 1996). People often judge their own risk, or others' risk, of experiencing negative life events (Weinstein, 1980, 1989). Understanding the risk judgments of oneself and others is important because many consequential decisions might be based on them. A robust result from previous research on personal risk judgments is that people tend to judge their own risk to be lower than that of their peers (Weinstein, 1980, 1989).

Studies have shown strong interest in explaining the peculiarity of risk perception and behavior, as people continue to expose themselves to risky situations while showing strong concerns about the risks. Reasons for this might be the multidimensional nature of risk judgments suggested by the impersonal impact hypothesis (Tyler & Cook, 1984) or the optimistic bias model (Weinstein, 1980, 1989). The impersonal impact hypothesis assumes that people distinguish between two different levels of risk judgment: societal and personal. *Personal-level risk judgments* refers to the formation of an individual's beliefs about his or her own risks, while *societal-level risk judgments* refers to the formation of an individual's beliefs about risks for the larger community (Tyler & Cook, 1984). The theory holds that individuals often underestimate their own vulnerability to risk while perceiving that a society in general has a greater susceptibility.

In a similar vein, Weinstein (1980, 1989) suggested that individuals tend to interpret risk in a "self-serving" way by underrating their own vulnerability to risk while judging others as having a greater susceptibility, a tendency called "optimistic bias." Research on optimistic bias has suggested numerous underlying mechanisms. The most plausible of these include a) self-esteem through ego enhancement, and b) psychological distance (Chapin, 2000). Individuals may underestimate their own vulnerability to risk to enhance self-esteem and produce a sense of personal control (Perloff, 1999). Similarly, individuals build self-esteem by seeing themselves as smarter or better than their peers (Gunther & Mundy, 1993). Wills (1981) argued that optimistic bias occurs as individuals make downward comparisons to enhance their subjective well-being by comparing themselves with a less fortunate other. Psychological distance refers to the way in which individuals target peers when asked to make comparative risk judgments. As psychological distance increases ("best friends," "students in this class," "average Americans," etc.), the amount of perceptual bias also increases, making individuals believe that others are different from themselves. Hence, they believe that "others" are more vulnerable to risk than they are.

Studies have shown that this unrealistic optimism is robust and replicated in various risk assessment scenarios, such as when people evaluate the impact of smoking on their health or estimate the probability of having heart attack or being infected by HIV (Chapin, 2000; Price, 2001; Shepperd, Helweg-Larsen, & Ortega, 2003). Additionally, optimism about one's own risk has been shown to be fairly resistant to interventions designed to debias such perceptions (Weinstein & Klein, 1995). Overall, the above literature suggests that individuals should distinguish two different levels of risk judgment (societal and personal) when evaluating risks to online privacy. As such, it is expected that individuals will consider themselves less vulnerable to threats to online privacy than other members in a given society. Hence, we posit the following:

Hypothesis 1: Individuals will believe they are less vulnerable to online privacy risks than are others.

Communication and Risk

The manner in which individuals construct judgments of risk to themselves and others has defied simple explanation, as such judgments are shaped by a variety of internal

and external factors (Helweg-Larsen & Shepperd, 2001; Slater & Rasinski, 2005). Traditionally, risk perception and optimistic bias have been explained in terms of cognitive and motivational factors (e.g., Hoorens, 1994). However, communication processes have also been factored into the model to explain the self-other differences in risk perception.

a) Mass Media and Interpersonal Communication Effects

Although the impersonal impact model and the optimistic bias hypothesis are not theories of communication, media messages have often been cited as a significant factor influencing individuals' risk judgments and perception. With regard to optimistic bias, research shows that media messages incorporating cues to positive outcomes (such as being offered a good job before graduation) decrease such bias. Subjects report that they would have almost the same chance of having the same positive outcomes as others. In contrast, messages associated with negative outcomes (risk-related messages) have been shown to increase the level of bias as individuals believe that the risk would affect others but not themselves (Darvill & Johnson, 1991; Weinstein, 1980).

The impersonal impact model more clearly specifies the influence of communication sources on risk judgments. The model suggests that personal and social risks are distinct and informed by different communication channels. It states that the effect of mass media messages on risk judgments is assumed to be "impersonal," mainly raising individuals' awareness of dangers and risks in society and leading them to perceive that others are vulnerable to these dangers. However, the media messages do not necessarily make individuals believe that they are personally at risk, because they do not draw implications about themselves from information about the frequency or seriousness of a problem within the general population presented in mass media reports (Borgida & Brekke, 1981). Judgments about *one's self* may be the result of more purposeful, information-gathering activities than one determined by exposure to mass media messages (Culbertson & Stempel, 1985; Piliusik & Acredolo, 1988).

In contrast, interpersonal communication is posited to have a more personal impact affecting personal-level risk judgments. A possible reason for this is that interpersonal communication allows for in-depth, detailed analysis of all aspects of a risk issue. Additionally, such interactions tend to take place between known sources (e.g., a family member or a friend), and credible sources (e.g., authority figures or people familiar with the issues at hand). In other words, people tend to talk with those they trust and from whom they receive strong influences.

Previous findings concerning interpersonal communication influences on societal- and personal-level risk judgments have been mixed (Dunwoody & Neuwirth, 1991; Mazur & Hall, 1990). However, the effects of interpersonal communication are consistently more evident in personal-level risk judgments than in societal-level risk judgments (Morton & Duck, 2001). Taken together, the literature reviewed above suggests that the two different (i.e., societal and personal) levels of risk judgment about online privacy should be distinctly informed by different communication channels. Specifically, we predict that the mass media have a more direct effect on societal-level risk judgments while interpersonal communication has a more direct effect on personal-level risk judgments.

Hypothesis 2a: Exposure to mass media reports on online privacy risks will be positively associated with high-risk judgments at a societal but not a personal level.

Hypothesis 2b: Increased interpersonal communications about online privacy