

PREVENTING PIRACY USE INTENTION BY RECTIFYING SELF-POSITIVITY BIAS

MENGGUAN LAI AND CHUNG-CHI KUO
National Cheng Kung University, Tainan, Taiwan

Piracy has become a global challenge. In this study, the author proposed to discourage piracy intention by rectifying the self-positivity bias with message framing and information accessibility. Cartoon advertisements conveying either positively or negatively framed messages were produced. Respondents' level of information accessibility of piracy behavior was manipulated. As predicted, using positively framed messages or increasing level of information accessibility can effectively reduce self-positivity bias. Moreover, in a low information accessibility scenario, positive rather than negative message framing is more effective in reducing self-positivity bias in using pirated products. Research implications, limitations, and suggestions for future research are also addressed.

Keywords: self-positivity bias, message framing, information accessibility, piracy, attitude.

Piracy has become a global challenge for jurists, marketers, and scholars in marketing fields (Park & Ginarte, 1997). Although the reported software piracy rate is worst in developing countries such as Vietnam and China (91%), the piracy rate reached 22% in the North American region in 2005 Business Software Alliance (BSA; 2005). Based on the current piracy rate, it is estimated that \$200 billion worth of software will be pirated in the next five years. Besides amending

Mengkuan Lai, PhD, and Chung-Chi Kuo, MBA, Department of Business Administration, National Cheng Kung University, Tainan, Taiwan.

Appreciation is due to reviewers including: Lienti Bei, PhD, Department of Business Administration, National Chengchi University, No.64, Sec. 2, Zhinan Road, Wenshan District, Taipei City 116, Taiwan, Email: lienti@nccu.edu.tw; Zhili Liang, Education Building (ED) 233, Department of Educational and Counseling Psychology, School of Education, State University of New York at Albany, Albany, NY 12222, USA; Zheng Yan, Ed.D., Department of Educational and Counseling Psychology, School of Education, State University of New York at Albany, Albany, NY 12222, USA, Email: zyan@uamail.albany.edu

Please address correspondence and reprint requests to: Mengkuan Lai, PhD, Department of Business Administration, National Cheng Kung University, 1 University Rd., Tainan 701, Taiwan. Email: mklai@mail.ncku.edu.tw

existing regulations, efforts should be made to understand why people engage in piracy behaviors, especially the younger and more educated group, since they are more likely than others to use pirated products (United Daily News, 2002) such as downloaded games, movies, and commercial software using peer-to-peer (P2P) technology (BSA, 2005).

Two reasons may explain why individuals engage in piracy behaviors. First, they may not be aware of the range of piracy behaviors. A college student may perceive setting up a P2P file-sharing site to provide movies and songs for his/her friends to download as a socially and ethically acceptable behavior. Under this scenario, the ethical decision-making schemata adopted previously may be unable to fully explain the behaviors since they may not employ such thinking (Solomon & O'Brien, 1990). A second reason is that they may be aware of their piracy behaviors but do not think that they will be caught by officials. That is, they perceive *their* risk of being caught for engaging in piracy behaviors to be lower than the average person's, a phenomenon identified as the self-positivity bias (SPB; Perloff, 1983) or unrealistic optimism (Weinstein, 1989). Self-positivity bias (SPB) explains the phenomenon that individuals have, not only a hopeful outlook on life, but a bias in judgment toward certain events (Perloff, 1983). Specifically, individuals perceive themselves as more likely to encounter positive events (e.g., finding a good job) but less likely to encounter negative events (e.g., having a car accident) than others. Self-positivity bias has been recognized in issues such as various life events (Weinstein, 1989), AIDS (Raghubir & Menon, 1998), health (Taylor & Brown, 1988), and political perception (Nilsson & Ekehammar, 1987). When making decisions about using pirated products, individuals may somehow perceive a lower likelihood of being caught themselves than that for others. Reducing self-positivity has been shown to encourage prevention behaviors in estimating health risk (Menon, Block, & Ramanathan, 2002). However, little research explores the effect of SPB in the issue of piracy. The expectation and perception of risk is influenced by both internal and external information. This study proposes to discourage people to engage in piracy behavior by rectifying their SPB through their internal information (i.e., information accessibility) and external information (i.e., message framing).

MESSAGE FRAMING AND SELF-POSITIVITY BIAS

When individuals make decisions, their expectations of benefits and self-perceptions of risks influence their decisions (Bommer, Gratto, Gravander, & Tuttle, 1987). The perceived likelihood of gain and loss from their activities may thus influence whether they take certain actions to receive maximal profits. The premise of prospect theory suggests that individuals' decisions are sensitive to how information is presented (Tversky & Kahneman, 1979), which, in turn,

affects individuals' responses to the communicated issue (Nabin, 2003). The effect of message framing on persuasion has been explored in marketing fields (e.g., Maheswaran & Meyers-Levy, 1990). Two message framing approaches – positive and negative framing – have been researched. *Positively framed messages emphasize the advantages of a product (or brand) or the potential gains to consumers in a situation* (Grewal, Gotlieb, & Marmorstein, 1994). *Negatively framed messages* are described as *communications that stress the disadvantages or the potential losses of an object to consumers in a situation* (Zhang & Buda, 1999). Although negatively framed messages are the most common message presentation applied in social marketing and have been shown to attract attention, they sometimes makes social problems appear insoluble, so that people feel nothing can be done (Fine, 1990). However, in some cases, positively framed messages applied in social marketing could encourage people to take action to solve the problem instead of just threatening them (Obermiller, 1995). Findings of research on the effect of message framing on social issues are inconsistent due to the manipulation of framing (Lee & Aaker, 2004), and moderating and mediating variables (Shiv, Britton, & Payne, 2004) that might influence the persuasiveness of the message.

When facing negative issues such as adversity or contraction of diseases, individuals may become unrealistically optimistic (Zakay, 1996). Self-positivity bias may occur because individuals simply want to feel happy, reduce uncertainty and anxiety, or increase self-esteem (Lin, Lin, & Raghurir, 2003). Uncertainty per se is aversive. The uncertainty of consequences of piracy related behaviors leads individuals to be risk aversive. Therefore, a message conveying the benefits of using licensed products (i.e., positively framed messages) is likely to be most effective in preventing piracy behaviors. It will lead individuals to become averse to losses, such as having fewer innovations in the future, if they ignore the message. Hence, the first hypothesis was generated.

H1: The effect of positive message framing on reducing self-positivity bias will be more significant than that of negative message framing.

INFORMATION ACCESSIBILITY AND SELF-POSITIVITY BIAS

Research shows that memory factors affect individuals' processing of choices and outcomes (Johnson & Russo, 1984). Information must be retrieved from the memory before it can be considered in making a particular judgment. However, only a small portion of the vast quantities of information (i.e., available information) that we have learned is "accessible" at any given time (Lynch & Srull, 1982). Individuals tend to recall experiences that conform to their expectations. Since available information is not always accessible and the accessibility of information has been shown to be influential in judging the risk

associated with certain behavior (Raghubir & Menon, 1998), this study employs information accessibility – rather than information availability – as a strategy to reduce the SPB in piracy behavior.

Tversky and Kahneman (1974) report that judgment of the probability of the occurrence of a particular event depends on the extent to which relating information could be recalled easily. The more accessible the related behaviors, the higher the perception of one's own risk, because people sum individual risk estimates of each behavior retrieved (Raghubir & Menon, 1998). Thus, if piracy-related behaviors are more accessible in the memory, individuals should realize that the risks of engaging in piracy behaviors are not as easily eliminated as they might have earlier believed; consequently reducing their SPB. Moreover, information accessibility affects the perceptions of risk to oneself to a stronger degree than it does the risk to others since it is a more diagnostic input for self-judgments (Menon, Bickart, Sudman, & Blair, 1995). Hence, higher accessibility of information should reduce the difference in the estimates of risk between oneself and another person. This second hypothesis was generated.

H2: High information accessibility will be more effective in rectifying the self-positivity bias than will low information accessibility.

MESSAGE FRAMING, INFORMATION ACCESSIBILITY, AND SELF-POSITIVITY BIAS

In the revision of prospect theory (Tversky & Kahneman, 1992), the cumulative theory, the general predictions on framing effects have been refined and predict a greater impact for negatively framed messages under risky conditions. If the outcomes involve high probabilities of risk, individuals tend to be risk seeking for gains and risk averse for losses (Tversky & Kahneman). In particular, when individuals perceive that they are engaging in risky behaviors, they become more involved in the situation; thus they are more likely to carefully evaluate relevant information. Negatively framed messages have been found to be more diagnostic (Fiske, 1980) and are evidently more persuasive in a highly involved situation than are positively framed messages (Block & Keller, 1995; Donovan & Jalleh, 1999). If piracy related behaviors are easily accessible (high information accessibility), it would remind an individual that he or she also has related behaviors (Raghubir & Menon, 1998). Consequently, individuals will perceive the high risk of engaging in piracy behaviors; negatively framed message can lead individuals to become risk averse and would, therefore, strengthen the effect of reducing SPB.

On the other hand, when individuals are exposed to a low information accessibility condition, the cumulative prospect theory cannot be applied since they perceive themselves to be less at risk of the described behaviors. So, based on prospect theory, positively framed messages will be more effective than negatively framed messages in persuading individuals in a low perceived

risk situation (low information accessibility). Individuals will still be risk averse toward the positively framed message. Thus, the third hypothesis was generated.

H3a: When information accessibility is high, the effect of negative message framing on reducing self-positivity bias is greater than that of positive message framing.

H3b: When information accessibility is low, the effect of positive message framing on reducing self-positivity bias is greater than that of negative message framing.

SELF-POSITIVITY BIAS AND INTENTION

In the social psychology literature, SPB could be explained as a self-enhancing tendency that individuals have toward the perceptions of themselves (Taylor & Brown, 1988). If individuals have robust self-positivity, they will perceive themselves as being less susceptible to risk than others (Raghubir & Menon, 1998) and may think they are safer in using pirated products. On the contrary, if SPB could be reduced, individuals will not judge piracy behaviors so inaccurately, and are thus less likely to engage in piracy behavior themselves.

H4: The reduced degree of SPB has a positive impact on decreasing target audiences' piracy intention.

METHOD

A between-subject factorial design that manipulated message framing (positive and negative) and information accessibility (high and low) was used to test the hypotheses.

MESSAGE FRAMING

A positive message framing emphasizes the benefits to be gained or negative outcomes avoided (Rothman & Salovey, 1997) by adopting a promoted course of action (Donovan & Jalleh, 2000), while a negatively framed message expresses options in terms of losses (Mitchell, 2001). Three pieces of information for each message framing condition were manipulated because the number of messages has been shown to influence the receivers' differentiation of messages (Menon, Block, & Ramanathan, 2002). The information was drawn from the Intellectual Property Office and the Microsoft website. The content of information was kept the same except for the framing direction to match the intended positive or negative message framing scenario. Specifically, one of the positive framing messages that respondents read is "Use licensed copies; you will not be involved in violating the law!" In the negative message framing condition, respondents read "Use pirated copies; you violate the law!" The other two pieces of messages

in the positive (negative) framing are “Use authorized (pirated) copies; you will enjoy (lose) the benefits of the products!” and “Use authorized (pirated) copies; you will (not be able to) enjoy more innovative products!”

INFORMATION ACCESSIBILITY

Information accessibility refers to the ease of retrieving an input from memory (Menon, Raghurir, & Schwarz, 1995). Following the manipulation used by Schwarz, Bless, Strack, Klumpp, and Simons (1991), information accessibility was manipulated by asking respondents to list either one or five piracy related behaviors in the easy to retrieve (i.e., high accessibility) condition and difficult to retrieve (i.e., low accessibility) conditions, respectively.

DEPENDENT MEASURES

The measurement used by Raghurir and Menon (1998) in examining the SPB in the issue of AIDS was modified for this study. Respondents were asked to estimate separately their own chances of suffering harm by using pirated products, likelihood for their friends, and for others in the same age group. Respondents used an 11-point itemizing rating scale anchored from 0% (*not at all*) to 100% (*very probable*) (see Appendix). Three items measured on a 7-point semantic differential scale (*very unlikely* / *very likely*) respondents' willingness to decrease their use of pirated products, to lend a licensed copy to friends, and to persuade their friends to refuse using pirated products.

MANIPULATION CHECKS

Seven-point semantic differential scale items were used to check the effectiveness of framing manipulations (*disadvantage* / *advantage of using piracy products*) and information accessibility (*not difficult at all* / *very difficult to retrieve*).

EXPERIMENTAL MATERIALS

Two cartoon advertisements that presented either the positively framed message or negatively framed message were designed with the FLASH program. The advertisement shows a potential piracy behavior (making an illegal copy of a music CD) and led to the discussion between two undergraduates of the behavioral consequences (either positive or negative framing). To remind respondents, the messages presented in the cartoon were produced as printed flyers containing the same pieces of either positively or negatively framed messages.

PROCEDURE

The experiment was composed in two parts. First, respondents rated items on their initial SPB level and intention of piracy behavior, which was collected

immediately after completion. Respondents then received either high or low information accessibility manipulation randomly by asking them to recall either one or five piracy-related behaviors, respectively, followed by a manipulation check item asking them whether or not the recall task was difficult. The recall list was then collected. In the second part of the experiment, respondents watched a cartoon advertisement containing either a positively or negatively framed message corresponding to their assigned scenario. Each respondent then received one print flyer corresponding to the assigned scenario and filled out items measuring post-SPB and piracy intention after treatment. It took 10 minutes to complete the procedures.

Based on the results of two pretests and feedback from respondents, the experimental material and questionnaire were refined for formal data collection.

RESPONDENTS

Undergraduates were selected as the target audience of antipiracy information because younger individuals with advanced education have a greater tendency to use pirated products, according to the survey of United Daily News (2002). Convenience sampling was applied to collect data. Sixty undergraduates (19 males and 41 females) participated and were randomly assigned to four between-subject conditions.

RESULTS AND DISCUSSIONS

The manipulations of information accessibility (high vs. low: 2.3 vs. 5.27, $t = 8.83$, $p = 0.000$) and message framing (negative vs. positive: 1.93 vs. 6.10, $t = 11.01$, $p = 0.000$) were successful. The existence of SPB was examined (Table 1). The t test results indicate that the differences in SPB between the self, friends, or others decreased after receiving treatment. Based on the results of the comparisons of pre- and post- difference of SPB between self and the other two referents and the fact that similar attitudes and behaviors may be shared among friends (Raghubir & Menon, 1998), the degree of reducing SPB was calculated as the following.

Degree of reducing SPB = [(Pre-perceived risk of others) – (Pre-perceived risk of self)] – [(Post-perceived risk of others) – (Post-perceived risk of self)]

When the difference between post-perceived risk of others and self is smaller than the pre-perceived risk of others and self, the effort to reduce SPB is successful. In other words, the larger the degree of reducing SPB is, the greater the effect of reducing SPB. Intention index is the differences between means of intention measure between pre- and post-treatment. The α -value of intention measure is .865.

TABLE 1
THE COMPARISONS OF PRE-SELF-POSITIVITY BIAS AND POST-SELF-POSITIVITY BIAS

Self-Positivity Bias		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i> value	<i>p</i> value
pre- (friends vs. self)	(2.367 vs. 1.7)	60	.667	1.130	.497	.621
post- (friends vs. self)	(4.517 vs. 3.917)	60	.600	1.291		
pre- (others vs. friends)	(4.0 vs. 2.367)	60	1.633	1.302	2.463	.017
post- (others vs. friends)	(5.567 vs. 4.517)	60	1.050	1.490		
pre- (others vs. self)	(4.0 vs. 1.7)	60	2.300	1.555	2.598	.012
post- (others vs. self)	(5.567 vs. 3.917)	60	1.650	2.276		

HYPOTHESES TESTING

The results of a two-way ANOVA, where the independent variables were message framing and information accessibility, and the dependent variable was the degree of reducing SPB, indicate that the interaction effect between message framing and information accessibility on reducing SPB is not significant ($df = 1, F = 2.93$). The main effects of message framing ($df = 1, F = 5.31, p < .01$) and information accessibility ($df = 1, F = 9.30, p < .01$) on reducing SPB are significant. The degree of reducing SPB after receiving the positive message framing ($M = 2-.83 = 1.17$) was significantly greater than after the negative message framing ($M = 2.6-2.47 = .13$). Hypothesis 1 was supported. Similarly, the reduction of SPB under the high information accessibility situation ($M = 2.33-1 = 1.33$) was significantly greater than in the low information accessibility situation ($M = 2.27-2.3 = -.03$). Hypothesis 2 was supported.

Contrast analysis was used to further investigate the differences in reducing SPB across the four experimental conditions to test hypothesis 3a and hypothesis 3b. The homogeneity test of Levene error variances on reducing SPB satisfied the homogeneous condition ($p = .729$); equal variances are assumed. The contrast results of positive message/high information accessibility versus negative message/high information accessibility is not significant (-1.47 vs. -1.2 , estimate = $-.27, df = 56, t = -.42, p = .676$). Hypothesis 3a was not supported. Keller (1991) proposed the cue compatibility principle, which states that the match of information stored in memory and the type of information presented is necessary for successful recall of communication effects. Under the high information accessibility condition, respondents only retrieved one piracy related behavior. It is possible that their retrieved behavior was not included in any of the three main aspects of piracy consequences adopted in this study, and they may have concluded that the piracy consequences were personally irrelevant.

The results of contrast between positive message/low information accessibility ($-.87$) and negative message/low information accessibility ($.93$) are significant (estimate = $1.8, df = 56, t = 2.84, p = .006$). In other words, in a low information

accessibility condition, positive rather than negative message framing is more effective in reducing SPB, as hypothesized.

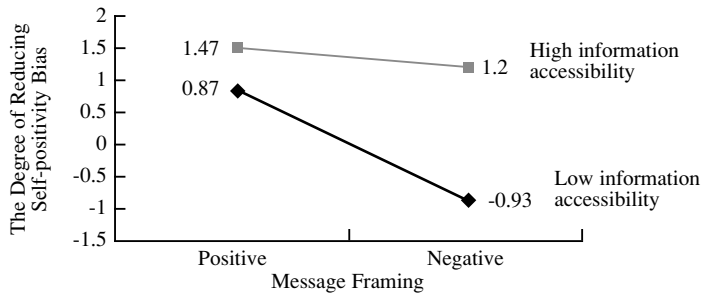


Figure 1. Effects of message framing and information accessibility on reducing SPB.

Finally, the results of regression analyses support the argument that the degree of reducing SPB positively impacts on decreasing the intention of piracy ($\beta = .26$, $t = 2.84$, $p = .006$; $\gamma^2 = .12$) (H4). When the difference of risk estimates between self and others was reduced, the intention of piracy of the target audience was decreased.

GENERAL DISCUSSION

Even though the laws related to piracy have been amended in order to prevent individuals from using pirated products, the piracy rate still remains at a high level globally (BSA, 2005). One possible reason for individuals to engage in piracy-related behaviors is their self-positivity bias, which reveals that, compared to the public, individuals tend to perceived themselves as less likely to encounter negative events (Perloff, 1983). Due to the SPB, piracy users may believe themselves to be less at risk than others of being caught for piracy behaviors. The aim of this study was to rectify the personal SPB to change the classic thinking of piracy users, that “it won’t happen to me” (Weinstein, 1989). This study proposed to reduce piracy behaviors by presenting target audience with framed messages and stimulating levels of information accessibility that could induce them to evaluate the consequences of their piracy behaviors accurately.

The results of this study indicate that positive message framing is more effective than negative message framing in reducing SPB. Since the effects of message framing are inconsistent, this study empirically demonstrated that positive message framing rather than negative message framing is more effective in reducing SPB. Research has proposed that positive message framing is more effective for promotion while negative message framing is more effective in

prevention (Lee & Aaker, 2004). In addition, there is limited literature that addresses the interaction between message framing and information accessibility on SPB. Interestingly, these results suggest that positive message could be more effectively used in reducing SPB when information accessibility is low.

Previous research has reported that unrealistic optimism is influenced by the specificity of comparison target (Perloff & Fetzer, 1986; Zakay, 1996). This study also found that the means of perceived risk for the self and friends are closer than those for the self and others. The results correspond to the literature (e.g., Raghurir & Menon, 1998; Zakay, 1996) that suggests that individuals have a tendency to assume that those similar to themselves share their own attitudes and behaviors. Researchers have evaluated the effects of reducing SPB only by testing whether respondents' intention toward certain issues had changed after treatment (Raghurir & Menon). This study evaluated the effects by calculating the differences of perceived risk between the self and two referents. This operation enables a test of the effects of experimental manipulations.

MANAGERIAL IMPLICATIONS

Piracy is a global challenge, which may influence, not only the economic condition of countries around the world, but the innovations available to consumers in the future. If advertisers want to reduce individuals' unrealistically optimistic evaluation of their future, they should adopt positive message framing in advertisements in order to reduce the target audiences' SPB effectively. For example, buying licensed products could be promoted by stressing how this would lead to greater variety of innovative products. With a negatively framed message, receivers may perceive the problem as personally unsolvable, rendering the message less effective in persuading them to use licensed products.

This study shows that increasing the accessibility of behaviors relating to piracy leads to higher estimates of the risk of piracy behavior for oneself. Thus, communication messages should include the prevailing behavior among a target audience, to increase information accessibility; that is, to make the recall of piracy behaviors easier. As a result, receivers may perceive that they are at high risk and re-evaluate the consequences of their behaviors.

The hypothesis that negative rather than positive message framing is more effective in reducing SPB under the high information accessibility condition was not supported. However, most frequently, audiences may neither realize the diversity of piracy behaviors nor easily access the piracy behaviors. In other words, audiences may be in the low information accessibility condition most of the time when facing possible piracy behaviors. When the information accessibility is low, it is suggested, based on the empirical findings, that marketers should adopt the positively framed message in advertisement.

LIMITATIONS AND SUGGESTIONS

This study tested the effects of message framing and information accessibility by comparing the differences of pre- and post-self-positivity bias. The feedback from respondents excluded the demand effect since they had not received any similar test format and the purpose of asking them to evaluate the SPB of themselves, friends, and others was not guessed by the respondents. Future researchers may develop different research methods to eliminate the potential demand effects. Future researchers could apply this mental condition of unrealistic optimism to study other socially undesirable behaviors, such as smoking or drunk driving, and explore the influence of other mental factors, such as emotion, to create more effective communication and reduce individuals' SPB. Finally, Jundt and Hinsz (2002) argue that affect plays a role in information processing, which would influence the judgmental biases. In addition, self-reference might influence respondents' perception of the piracy issue. Future research may include affect and self-reference to explore self-positivity bias.

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