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Pluralistic Ignorance in the Personal Use of the Internet and System Monitoring

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ABSTRACT

Previous research suggests that computer security countermeasures would be effective in preventing computer abuse in organizations. However, computer abuse problems still persist despite these efforts.

This study proposes a new model of computer abuse that explains a causal link between abusive behavior and a psychological state toward this behavior, drawn on the theory of pluralistic ignorance. Pluralistic ignorance is a form of erroneous social interference that is both an immediate cause and a consequence of literal inconsistency between private attitudes and public behavior. Under pluralistic ignorance, mistakenly perceived social norms overwhelm personal attitudes and subsequently lead to overt behavior contrary to an actor's attitude.

This new model contributes to the theoretical body of knowledge on computer abuse by providing a new angle for approaching the problem. In addition, it suggests to practitioners that social solutions should be considered, along with technical countermeasures, to reduce the pervasive computer abuse problems.

Keywords

Pluralistic ignorance, personal use of the Internet, social norm, Internet abuse

INTRODUCTION

Although previous research findings reveal that countermeasures would be effective in preventing Internet misuse or computer abuse in organizations, these problems still persist (Lee and Lee, 2002). According to Websense International Ltd.'s survey, employees' Internet misuse, including personal use, emerges as one of the biggest concerns that managers are dealing with in today's business environment. The survey revealed that 72% of companies have struggled with some form of Internet misuse and that in 40% of the surveyed companies, employees have brought up complaints about colleagues wasting time on the Internet. Davis (2002) found that 56.5% of employees report that non-work-related Internet use has decreased their productivity.

Along with direct measures such as security policies and systems monitoring, human or social factors have caught the attention of managers as a way to prevent or reduce computer abuse problems. For example, coworkers or seniors influence on the Internet abuse through the social bond theory have affected the personal attitude or subjective norm and in turn, committed such a problem (Lee and Lee, 2002). Past studies based on social aspects, stressed that the social environment can lead to an increase or reduction in such unethical behaviors as Internet abuse or computer abuse problems in this case.

However, it is not the case that a person's attitude always leads to an overt behavior. It is rather frequently observed that a person actually behaves in a different way from his or her beliefs or opinions. One early example is to serve Chinese people in a restaurant in the U.S. during 1950s despite the restaurant owner's negative attitude to serve Chinese people. That is, mistakenly perceived social norms overwhelm personal attitudes. Subsequently this leads to overt behavior contrary to one's own attitude. Thus Internet abuse can be increased from people's mistaken perceptions such that others would have a higher propensity to commit Internet abuse than oneself. We examine how inconsistency between private attitudes and public behaviors plays a role in personal use of the Internet on campus and in other related issues, such as system monitoring policy.

The purpose of this study is to empirically investigate the role of pluralistic ignorance in students' perceptions of Internet abuse on campus. Theoretically this study contributes to the existing literature, by operationalizing and validating the concept of pluralistic ignorance as an explanatory variable for measuring user Internet abuse. Practically, this research provides managers in organizations for a way to reduce Internet abuse in public working places.

The paper will be presented in the following order. First section of this paper examines the existing literature on pluralistic ignorance as well as on personal use of Internet and Internet misuse at work. Our research model and hypotheses are presented and discussed in the second section. The research methods and the findings are included and analyzed in the third section. Final section addresses implications of the research and conclusions.

PLURALISTIC IGNORANCE AND PERSONAL USE OF THE INTERNET

Attitude, Social Norm, and Behavior

There has been a longstanding interest in the field of psychology examining the utility of attitudes for predicting behavior and measuring the causal link between attitude and behavior (Terry and Hogg, 2000). As Allport (1954) mentions, attitude is "the primary building stone in the edifice of social psychology." Attitude is a principle cue to behave in a particular manner. Thus, it is considered as a determinant of how a person will actually behave in his or her daily life (Gross and Niman, 1975).

Besides individual attitude, subjective norms or perceived social pressure was suggested as a conceptually independent variable to behavioral intention (Ajzen, 1988). Many researchers have tried to explain this phenomenon by investigating the effect of social or group norms. In his early research, Davison (1958) mentions that the informal, person-to-person communications make a person aware of the group norm that he or she belongs to and consequently affects opinions that are formed about the person. Then, the person makes his or her own assessment about group opinions and tries to behave accordingly to gain rewards or avoid punishment from the group.

It is widely accepted that the role of the social norm is usually weaker in the presence of strong attitude. It was revealed that the average effect of attitude on behavioral intention was four times stronger than that of the average subjective norm of intention in the causal link (Ajzen, 1991). Alternatively, however, other studies suggest that these norms may have strong effects on behavioral intentions when they are defined in wider social psychological definitions (Brown 1988). Along with social influence, social norms are considered as a more prescriptive power regarding a person's appropriate attitudes and behaviors as a member of a group in a specific context (White, Hogg and Terry, 2002).

Pluralistic Ignorance in the Perception of Unethical Behavior

Pluralistic ignorance (PI) is a misperception that occurs when a majority of individuals in a group or society falsely assume that most of their peers behave or think differently from them when their attitudes and/or behaviors are similar in fact (Krech and Crutchfield, 1948; Prentice and Miller, 1996). PI is knowledge of "shared cognitive patterns, that is, socially accepted but false propositions about the social world" (O'Gorman, 1986). For example, the majority with healthy attitudes and/or behaviors falsely believe that they are in the minority. In this light, the social nature of PI needs to be understood as systematic and invalid distortions of a group norm.

PI encourages individuals to suppress healthy attitudes and behaviors that are falsely thought to be non-conforming and to engage in unhealthy behaviors that are taken incorrectly as normative. For instance, most college students who drink moderately or not at all, incorrectly assume that other students drink more than themselves and also more than they do in reality (Prentice and Miller, 1996).

As a critical consequence of PI, researchers have suggested that it increases a person's feeling of deviance from his or her peer group, and in turn its associated feelings of deviance lead a person to internalize the misperceived group norm (Miller and McFarland, 1991; Prentice and Miller, 1996). Prentice and Miller (1993) found that college students consistently believed that they were more uncomfortable with campus alcohol use than the other students. Furthermore, they found that male students even shifted their attitude to the direction of what they (mistakenly) believed to be the social norm over the time. This internalization process for misperception would be very suggestive in that PI could lead individuals to engage in more unethical behavior (Halbesleben, Buckley and Sauer, 2004).

One hot issue which organizations are suffering with after emergence of the Internet is employees' personal use of the Internet in their workplaces. Personal use of the Internet refers to a behavior that is relevant to the employee, but irrelevant to accomplishing school work or studies. Downloading bulk files, such as music mp3s, movies and pictures using school network resources could be examples of the Internet misuse (Siau, Nah and Teng, 2002). Thus we hypothesize that PI exists on the personal use of Internet in a college community.

H1: There is a great gap between self and estimated others' attitudes about the personal use of the Internet in a college community.

We apply the same claim to examine the personal attitude toward campus-wide computer-base system monitoring issues. Even though the system monitoring issue has not been publicly debated in educational organizations, in a reflection of current business literature, we believe that this topic has enough potential to be a controversial contingent and provides an excellent case of PI.

H2: There is a great gap between self and estimated others' attitudes of system monitoring in a college community

In her theory of the spiral of silence, Noelle-Neumann (1986) claimed that in a society where opinions are highly distributed minority perception can be easily discarded by the self-censor in an effort to avoid embarrassment from non-conformity with majority perceptions. She mentioned that individuals form their perceptions about majority opinion by observing social cues from the environment. Therefore, the opinions with the most apparent and active followers are more likely to be accepted as majority views to an observer than they may actually be. This claim suggests a plausible answer as to why persons will be hesitant to publicly speak out or behave in accordance with their own attitude even when they mistakenly believes it is the social norm. So, it can be reasonably expected that if a person is deviant from the group norm in personal use of the Internet, then the person may be less likely to act publicly against an enforcement of system monitoring policy due to pluralistic ignorance.

H3: The deviation of perceived self-other difference is related to the intention to the direction of conforming to their estimated social norm.

Recent research by Terry and Hogg (2000) found that reference group norms increase the regular exercise behavior and strengthened behavioral intentions among university students, but only those who feel a salient membership as university students. Furthermore, it is assumed that strong group identification may lead to or at least be related with greater motivation to comply with the expectations of a reference group. So whenever persons find themselves in a strongly tied social group whose norms are deviant from what they hold, in most case, they seek measures to reconcile this discrepancy. Prentice and Miller (1993) suggested that two distinctive responses to this: internalization and alienation. They empirically found that one who felt a higher affiliation to a peer group was tending to internalize and accept drinking behavior in the way of sympathizing with the group norm, whereas the other who was less attached tried to alienate themselves from the group. They explained the phenomenon such that it was more critical for the former to conform to the norm and fit themselves for the university life than for the latter.

From this claim, we can expect that one having coherent feelings to peer groups would be more eager to internalize observed self-other discrepancy and likely to behave complying with societal norm, whether it is true or not, by showing higher intention to take part in the activities. Contrarily, one maintaining less coherent to the group may show no interest in adhering to norm-consistent activities or express their own attitude, regardless of group norm, toward system monitoring policy. Therefore, we hypothesize

H4: The extent of group coherence to peer group will be positively correlated to the intention to behave against system monitoring policy complying with observed group norm.

RESEARCH METHOD

Participants and Procedures

A survey was conducted to test the hypotheses advanced above. The survey instrument was drawn on the Prentice and Miller's (1993) previous experimental instrument. A sample of 152 student respondents was selected in an introductory class of management at a large public university in the mid-west region. The average age of the subjects was 22.5, and eighty-seven male and sixty-five female students took part in this survey. All participants were provided with the same questionnaire and were given 30 minutes, including an instruction period, to complete fourteen question items which measure respondents' self and their estimated others' perceptions toward personal use of the Internet, attitude and intention to act about a hypothetical system monitoring policy. The scale used for the questions ranged from 0 to 7 (0 = "extremely unlikely", 7 = "extremely likely").

Results

We found that the students consistently believed that their own personal usage of the Internet on campus is less than their expectation on other students' usage. The descriptive statistics are shown in Table 1. On average, the respondents' self estimation of percentage of personal use of the Internet out of their total computer usage at school is around 25% (mean=3.45), which is contrasted with their expectation on others (around 50% with mean=4.31). The paired-samples t-test reveals that the mean difference in perceived self-others difference is significant ($t = 4.5, p < 0.001$). Most of respondents rate higher in perceived other students' personal Internet usage than self-usage, indicating the existence of pluralistic perception concerning personal use of the Internet on campus.

In the hypothetical scenario of system monitoring enforcement, the students exhibit the more positive attitude ($M = 10.00$) than their estimation of others' attitude ($M = 7.39$). Again, a t-test showed a significant difference in perceived or estimated self-other attitude toward system monitoring policy ($t = 5.40, p < 0.001$). The analysis of the distributions of attitude toward system monitoring policy indicates that students' estimation about others' attitude consistently reveal the existence of misperceived norm among the student society. In both cases, we observe strong indications of pluralistic ignorance, divergence of subjective norms from actual norms and illusion of universality (Prentice and Miller, 1993).

Next, we measured whether this misperception of social norm and the discrepancy of self-other attitude would affect shaping the intention of public behaviors complying with the (misperceived) norm by which a student can avoid social embarrassment and seek own conformity to where he or she belongs. If verified, it is an interesting finding to demonstrate that people's misperception of social norm leads to the behavior which is inconsistent with both private and public attitude.

A correlation analysis was conducted to investigate whether the result is related to the gap between private attitude and estimation of other's attitude. The correlation analysis indicates that most respondents have a tendency to internalize the discrepancy. The internalization is the process through which individual attitudes are forced to conform to social norm by social influence. In this study, we viewed the extent of estimated self-other difference in attitudes as a sign of misperceived social influence, and tested the correlation among self-other difference in attitudes toward system monitoring. The self-other difference in attitude toward system monitoring was measured through three questionnaires in the survey: "If there were a public discussion about this new policy, would you intend to attend the discussion? (Intention 1)", "Would you actively try to collect signatures in protest of the system restriction? (Intention 2)", and "If the system restriction were to be implemented based on a majority vote of students, would you vote for Yes: to implement it? (Intention 3)". Among these three, the second and the third questions revealed significant results in students' intention to adhere perceived social norm into the expected direction. The Pearson's coefficients are 0.2 ($p = 0.06$), 0.28 ($p = 0.019$) and -0.549 ($p < 0.001$) for intention items 1, 2 and 3, respectively. Table 2 shows the correlations among self-other difference in attitudes.

Measure	Mean	Std. Deviation	t-value	Significance (2-tailed)
Self-other deviance in Internet usage	0.87	1.566	4.526	0.000
Self-other deviance in attitude toward system monitoring [†]	2.61	3.962	5.396	0.000

[†] Attitude measure includes 3 questions. Statistics are based on sum of three scores.

Table 1. Paired-samples t-tests toward personal use of the Internet and attitude toward system monitoring

The results indicate that the more the respondents perceive the difference between self and others, the higher the intention to the confirmatory to their expected social norm. More specifically, the respondents who perceived that others have a more negative attitude than they have toward the system restrictions shows the higher behavioral intention to collect signatures in protest of the restriction (item 2) and less tendency to vote "yes" for the implementation of the system restriction policy (item 3), thus confirming their mistakenly judged social norm.

Measure	Intention 1	Intention 2	Intention 3
Self-other deviance in attitude toward system monitoring	0.201	0.286*	-0.549**

* p < 0.05, two-tailed.

** p < 0.001, two-tailed.

Table 2. Correlations among self-other difference in attitudes toward system monitoring

Finally, we tested the relationship between group attachment and intention to social behavior consistent with observed group norm using correlation analysis. Unfortunately, we were unable to find clear indication that social coherence will positively affect the intention of public behavior. By not including individual disposition factors, we may have inadvertently missed the identification of an important effect. It can be expected that the more active, the person will show higher tendency to involve in the activity. Accordingly, the instrument should have measured these intervening factors to examine carefully whether proposed relationship actually exists in PI and social behavior context. Another rationale to the results is nature of the behavior that we tried to associate with group membership. The activity against system monitoring policy is more individualistic per se and less conspicuous to members of a peer group than drinking with classmates or other schoolmates with which Prentice and Miller successfully established relationship in their research.

	Intention 1	Intention 2	Intention 3
Group belongingness	0.196	0.121	-0.213*
Group identification	0.136	0.136	-0.182
Group tightness	0.231*	0.148	-0.215*
Group influence	0.088	0.075	-0.034

* p < 0.05, one-tailed.

Figure 3. Correlations between group coherence and intention to act publicly

CONCLUSIONS

Our study introduces a new social theory of pluralistic ignorance to IS research and successfully applied it to the personal use of the Internet and the subsequent policy related to it. Our results reveal some important aspects in understanding students' behaviors of the Internet misuse on campus. The results imply that students' behaviors are greatly influenced by their underestimation of others ethical attitude toward the personal use of the Internet and systems restriction policy. Students consistently perceive that the average students use more time in the personal use of the Internet and that possess more negative attitudes against system restriction. It generates erroneous perception to an individual, who in turn has a difficulty to situate his or her own attitudes in the relation to those of the social group where he or she belongs. As a result, the student manifests an intention that brings about inconsistent behavior against his or her own attitude in response to this perceived self-other deviance.

These findings can provide implications in dealing with an imminent issue, an employees' abusive Internet behavior at workplace. First, our results indicate that people's mere understanding of the pluralistic ignorance might mitigate the problem of personal use of the Internet at work. The misperception that others are more abusive in the public resources of the Internet might lead to more abusive behavior or at least not-guilty feeling about the behavior. By letting them know that others are equally socially responsible to the issue can lead people to take more responsible behaviors. Second, the role of pluralistic ignorance in muddling an employee's recognition of social norm possibly suggests an alternative approach other than the system monitoring enforcement in correcting organization-wide mischievous conduct.

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