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The IT way of loafing on the job: cyberloafing, neutralizing and organizational justice

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Summary Much attention has been devoted to how technological advancements have created a brave new workplace, revolutionzing the ways in which work is being carried out, and how employees can improve their productivity and efficiency. However, the advent of technology has also opened up new avenues and opportunities for individuals to misbehave. This study focused on cyberloafing—the act of employees using their companies' internet access for personal purposes during work hours. Cyberloafing, thus, represents a form of production deviance. Using the theoretical frameworks offered by social exchange, organizational justice and neutralization, we examined the often-neglected dark side of the internet and the role that neutralization techniques play in facilitating this misbehavior at the workplace. Specifically, we developed a model which suggested that when individuals perceived their organizations to be distributively, procedurally and interactionally unjust, they were likely to invoke the metaphor of the ledger as a neutralization technique to legitimize their subsequent engagement in the act of cyberloafing.

Data were collected with the use of an electronic questionnaire and focus group interviews from 188 working adults with access to the internet at the workplace. Results of structural equation modelling provided empirical support for all of our hypotheses. Implications of our findings for organizational internet policies are discussed. Copyright © 2002 John Wiley & Sons, Ltd.

Introduction

As businesses, together with the rest of the world, embark on their journey through the 21st century, it remains without a doubt that technological advances will continue to change the landscape of various domains of life as we know them. Over the last decade, perhaps the one technology that has had a dramatic effect on people's lives is the internet. Businesses, in particular, have been quick to identify and harness the potential offered by the internet as a platform for conducting business in non-traditional ways, and as a tool for enhancing employee performance. The internet has played an

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important role in helping businesses to reduce costs, shorten product cycle times, and market products and services more effectively (Anandarajan, Simmers, & Igbaria, 2000).

Recently, however, anecdotal evidence suggests that the internet is a double-edged sword which companies should deploy freely to employees with caution. Anandarajan (2002) argued that, in addition to being an efficient business tool, the internet also provides employees access to the world's biggest playground. While most internet users feel that activities such as looking up the football scores on the net, or e-mailing a friend, take only a couple of seconds, and should not pose a problem in the bigger scheme of things; often the few seconds add up to hours, spelling a problem for the company.

A survey of 1000 workers in the US revealed that 64 per cent of those surveyed surf the internet for personal interest during working hours (*The Straits Times*, 2000a). Additionally, an online survey reported that about 84 per cent of employees sent non-job related e-mail, while another 90 per cent surfed the internet for recreational Web sites using time when they should have been working (Vault.com, 1999).

Reports in the mass media lend further support to this worrying and costly trend of employees misusing the internet while on the job. For example, a study by SurfWatch found that when employees accessed the internet on company time with company's computers for personal reasons, as much as US$1 billion in costs may be incurred (*The Orlando Sentinel*, 1999). Menzel (1998) noted that activities such as surfing the web for entertainment, downloading or viewing obscene materials, transmitting electronic messages using pen names or pseudonyms are commonly encountered by managers of public organizations in the USA and are considered undesirable and unproductive.

Besides these direct costs, intangible costs in the form of productivity losses can result from employees' misuse of the internet. For example, the majority of the 150 executives polled in a study reported that their employees' productivity levels are being impaired because these employees use the internet for non-job related purposes (Roman, 1996). Further, another study reported that as much as 30 to 40 per cent of employee productivity can be lost due to employees surfing the internet for personal purposes (Verton, 2000). Taken together, therefore, these figures provide evidence regarding the prevalence, or at the very least, the potential of employees misusing the internet access provided at the workplace.

Although a recent study found that about 15.2 per cent of the 244 companies surveyed were not concerned at all, and 50 per cent somewhat or more concerned about employees surfing the internet for personal reasons (Verton, 2000); this is a noteworthy and rather worrisome trend as it affects losses in productivity and ultimately, affects companies' bottomline.

Existing studies examining employees' misuse of the internet, to date, remain largely atheoretical and provide little insights as to why this phenomenon occurs. To the extent that employees' misuse of the internet entails considerable costs to organizations and affects employees' productivity, it is important to understand what motivates individuals to engage in this behavior so that effective organizational intervention programmes and policies may be developed and implemented to deter or limit its occurrence. In this present study, therefore, we endeavor to begin an empirical exploration of employees' misuse of the Internet.

Specifically, we utilized the theoretical frameworks offered by social exchange, organizational justice and neutralization to explain why employees may be motivated to misuse their companies' internet access, and the mechanisms through which this behavior is facilitated. The contributions of our study are twofold. First, extant studies in the emerging literature related to the internet has largely examined the possible benefits that this global communications tool offers (e.g., Anandarajan et al., 2000). Aside from studies which focus on such negative aspects of the internet as internet addiction (e.g., Armstrong, Phillips, & Saling, 2000), few scholarly studies have examined the dark side of the internet. Recently, while the Communications of the ACM (a top-tier journal in the field of information systems management) has devoted a special issue to the topic of internet abuse, reflecting an initial scholarly attempt and interest to examine this phenomenon, research on the possible misuse of the

internet still remain largely anecdotal in nature. Bennett and Robinson (2002) noted that while the advent of technology has multiplied the opportunities for employees to remain unproductive, scholarly research into the different forms of deviance made possible by advent of new technology lags far behind its prevalence in today's workplace. Thus, our study attempts to fill this void in the literature by examining the potential of the internet being misused in the work setting.

Second, by approaching the issue from not only the theoretical perspectives offered by social exchange and organizational justice, but in particular, neutralization, our study aims to further our understanding as to why misbehavior among employees continues to prevail in organizations, despite the presence of extensive organizational rules and procedures designed and implemented precisely to keep such misbehavior to a minimum. As noted by Robinson and Kraatz (1998), there is the possibility that employees are using underlying mechanisms (i.e., neutralization) to facilitate their engagement in questionable behaviors. However, to date, the concept of neutralization has largely been applied to understanding misbehavior among delinquents. To this end, therefore, the present study seeks to extend the existing workplace deviance literature by examining a form of employee misbehavior, made possible by advent in technology, within the framework offered by neutralization.

Construct Definition

To date, the definition of employees' misuse of workplace internet access is rather imprecise. As such, we developed our own definition of this phenomenon based on our understanding of it from the various aforementioned descriptive studies (e.g., Roman, 1996; Vault.com, 1999) and other initial research on cyberloafing (e.g., Lim, Teo, & Loo, 2002; Lim, 2002—Paper to be presented at the Academy of Management Meeting, Denver, Colorado) to enable us to better conceptualize and operationalize this construct. We define any voluntary act of employees' using their companies' internet access during office hours to surf non-job related Web sites for personal purposes and to check (including receiving and sending) personal e-mail as misuse of the internet, and we coined the term 'cyberloafing' to refer to any such acts. Both these activities (i.e., surfing and checking e-mail) constitute an unproductive use of time in that they detract employees from carrying out and completing their main job duties.

According to this definition therefore, cyberloafing can and will be considered a deviant workplace behavior in our study. Workplace deviance refers to voluntary acts undertaken by organizational members that violate significant organizational norms, such that the well-being of organizations and/or their members are usually adversely affected (Robinson & Bennett, 1995). Extant studies on workplace deviance have investigated behaviors ranging from misdemeanors such as dishonesty (e.g., Grover, 1993) and rumor-mongering (e.g., Skarlicki & Folger, 1997), to absenteeism (e.g., Goldberg & Waldman, 2000) and other more serious transgressions such as aggression at the workplace (e.g., Greenberg & Barling, 1998), and employee theft (e.g., Greenberg & Scott, 1996).

While cyberloafing has not been empirically examined in the area of workplace deviance, our definition of cyberloafing categorizes it under the rubric of production deviance, which includes relatively minor, albeit, still organizationally harmful misbehaviors, in the typology of deviant workplace behaviors developed by Robinson and Bennett (1995). The other three categories in Robinson and Bennett's framework are: (a) property deviance; the unauthorized taking or damage of tangible company property (Hollinger & Clark, 1983); (b) political deviance, employees' 'engagement in social interaction that puts other individuals at a personal or political disadvantage' (Robinson & Bennett, 1995: 566); and (c) personal aggression, aggressive or hostile behaviors towards others (Robinson & Bennett, 1995).

Production deviance in the form of loafing is a perennial and costly phenomenon that has existed in organizations since time immemorial, as is evident from Snyder, Blair, and Arndt's (1990) study, where employees admitted to various forms of malingering on the job. In fact, as early as two decades ago, the ABA Banking Journal (1983) proposed a comprehensive list to describe the various types of loafers at work: these include the telephone chatters, restroom-minded, and long lunchers, among others.

With the availability of the internet, however, production deviance has evolved to take on a new form. Employees can now not only engage in loafing on the job, they can literally enjoy the best of both worlds by maintaining the guise of being hard at work in the real world while in effect, travelling through cyberspace by surfing Web sites for personal interests and purposes. Cyberloafers need not be absent from the office for inexplicably long periods of time, as long lunchers do. Cyberloafers also need not worry as much about the visibility of their loafing compared to the restroom-minded or those who hang out by the watercooler to chat. Cyberloafers, however, can inadvertently end up chalking up a lot of time spent surfing the internet, moving from one Web site to another simply with a click of the mouse. Also, cyberloafers in their virtual travels may—unwittingly or otherwise—visit sites which expose the organization to legal liabilities and to the dangers posed by computer viruses. These factors taken together suggest that cyberloafers may pose a greater 'threat' to organizations relative to other types of loafers, in terms of productivity losses and costs incurred.

The advent of technology has thus revolutionized loafing. Specifically, cyberloafing is the IT way of idling on the job. Therefore, while access to the internet may not result in an increase in production deviance with more people engaging in loafing *per se*, the temptation to do so is certainly higher since the internet makes it so much more easier and convenient to loaf in this manner. Drawing from prior research and theory, we next identified variables which may influence employees' inclination to cyberloaf and developed a model linking the variables of interest.

Theory and Research Hypotheses

Social exchange and organizational justice

Exchange theorists suggest that human interactions are characterized by social economics, where people are concerned about the inputs they invest in relationships and the outcomes they receive from these relationships (e.g., Blau, 1964; Homans, 1961; Thibaut & Kelly, 1959). One classic example of such a relationship would be that between employers and employees, where the most basic exchange is that of time and effort from employees in doing work in return for compensation from their employers. Foa and Foa (1975) noted that what may be exchanged in human interactions are not limited to money and material goods. Rather, social goods, such as information, respect and status, among others, may also be exchanged.

Conceptualizations of employment relationships have increasingly tried to build in these relational elements as employees become increasingly sophisticated and come to expect more than just wages in return for fair work. For instance, the psychological contract describes the employment relationship as based on exchange principles whereby individuals hold certain beliefs about mutual obligations within the relationship (Rousseau, 1990, 1995). It is subjective and governs the exchange of employees' services for tangible (i.e., money and material goods) and intangible (i.e., social goods) rewards.

In considering whether the exchange processes and interactions which occur among organizational members are of a fair nature, organizational justice, which refers to how fair an organization is towards its employees, will come into play. Previous research has identified three different forms of organizational justice, namely (a) distributive justice, which refers to the fairness of outcomes; (b) procedural

justice, which refers to the perceived fairness of the processes used to determine outcome allocation; and (c) interactional justice, which refers to the quality of interpersonal treatment (i.e., interpersonal sensitivity and explanations/social accounts) received by employees (Folger & Cropanzano, 1998). Since the allocation of outcomes, such as wages and promotions, ensures that the most basic needs of employees are met, it makes intuitive sense that distributive justice would be one of the fundamental principles in the determination of fairness of exchanges. Indeed, existing research has shown that distributive justice does play a significant role in influencing employees' perceptions of whether the employment relationship is a fair one (e.g., Analoui & Kakabadse, 1991).

However, given the increasing importance attached to relational aspects of the employment relationship, we believe that besides distributive justice, both procedural and interactional aspects of justice perceptions would be important in the determination of whether the exchanges that occur in employment relationships are fair. Results from previous studies examining the influences of all three facets of organizational justice have found evidence attesting to the important roles that they play (e.g., Skarlicki & Folger, 1997; Skarlicki, Folger, & Tesluk, 1999).

Indeed, previous research on workplace deviance has found empirical evidence which suggests that employees are more likely to engage in misconduct when they perceive their employers to have been unjust in their treatment or in the allocation of outcomes. For instance, Greenberg (1990) found that employees reacted to pay cuts which they perceived to be unfair by engaging in theft; Skarlicki and Folger (1997) found that employees who perceived their employing organizations to be unfair were more likely to engage in retaliatory behavior; and Aquino, Lewis, and Bradfield (1999) also found that perceived injustice at the workplace led to deviant behaviors being exhibited by employees.

Therefore, premised upon the ideas offered by social exchange and organizational justice theories, as well existing workplace deviance research, we expected that when employees perceive that they have been unjustly treated by their employers, they will become upset and be motivated to respond. Unjust treatment can arise from perceptions regarding one or a combination of the following: (a) perceived injustice in the allocations of outcomes (i.e., lack of distributive justice), (b) perceived injustice in procedures used to determine outcome allocation (i.e., lack of procedural justice), and (c) perceived injustice of interpersonal treatment (e.g., when credit is not duly given for a well-completed piece of work; being unfairly treated) (i.e., lack of interactional justice). If employees are of the view that any of the above forms of injustice has occurred, they may be motivated to reciprocate in kind.

Neutralization techniques

Extant research has noted that people generally possess an innate desire to present themselves favorably both to themselves and to others (Greenberg, 1998; Robinson & Kraatz, 1998). Premised upon this therefore, we would expect employees who perceive an imbalance in the employment relationship to be motivated to use what Sykes and Matza (1957) referred to as 'neutralization techniques', in an attempt to maintain that they are upright and moral individuals by providing acceptable justifications to excuse a deviant act or behavior.

More specifically, neutralization techniques refer to *a priori* rationalizations which individuals invoke in order to convince themselves and others that their deviant behaviors are justifiable and/or excusable (Greenberg, 1998; Robinson & Kraatz, 1998; Sykes & Matza, 1957). These are strategies which individuals undertake in order to reconcile the discrepancies between their deviant behavior and the positive self-image they wish to project, as well as to protect themselves from self-blame and guilt (Robinson & Kraatz, 1998). In this way, neutralization makes it easier for people to engage in deviant acts.

Until recently, neutralization has been extensively examined in the areas of delinquency and criminology (e.g., Mitchell, Dodder, & Norris, 1990; Shields & Whitehall, 1994). However, of late,

organizational scholars are beginning to consider the appeal of neutralization theory as an alternative theoretical perspective from which workplace deviance may be better understood. For example, in his study on nurses, Dabney (1995) found that respondents utilized established neutralization schemes to rationalize such deviant acts as the theft of general supplies and over-the-counter drugs. Additionally, Dabney found that besides being commonly used, neutralization techniques were perpetuated among the nurses such that they pervaded the workplace.

Hollinger (1991) also investigated the use of neutralization techniques at the workplace and found that deviant employees were significantly more likely to invoke neutralization techniques to excuse their behaviors. In addition, Greenberg (1998) and Robinson and Kraatz (1998) have separately developed frameworks based on Sykes and Matza's (1957) neutralization techniques in an effort to shed light on the persistence of workplace deviance. Therefore, it would be interesting to further examine the occurrence of neutralization in the organizational context.

While various neutralization techniques have been put forth and conceptualized by researchers, we have chosen to focus on the technique known as the metaphor of the ledger (Klockars, 1974). When individuals engage in neutralization through the metaphor of the ledger, they rationalize that they are entitled to indulge in deviant behaviors because of their past good behaviors, which have led to the accrual of credits that they can 'cash in' (Hollinger, 1991; Minor, 1981). That is, when employees have expended resources in the form of time and effort in fulfilling or even going beyond their job duties, they expect their employers to reciprocate in kind by allocating outcomes to them in a favorable manner—or ensuring that the procedures in the allocation of outcomes are just—by treating them in a just and fair manner. Thus, it is plausible that employees would view services provided as accumulated credits to be 'cashed in' in exchange for organizational rewards—both tangible and intangible—which have been implicitly or explicitly promised. Based on the norm of reciprocity inherent in social exchange, it makes sense that individuals who feel that they have been shortchanged in some way in a relationship would invoke this neutralization technique when they want to exercise the penalty of taking back something in an effort to restore some semblance of justice in that relationship.

In summary, based on social exchange and organizational justice theories, we propose that in the employment relationship, employees perform their job duties in return for some expected combination of economic and relational rewards from their employers. When employees perceive that their employers have not lived up to their end of the bargain, employees will be motivated to reinstate justice in some way. Since reciprocity can be either homeomorphic (i.e., tat for tat) or heteromorphic (i.e., tit for tat), there will be no specific way in which employees will try to restore the balance in the employment relationship. That is, it is not the means to the end that matter, but the end itself. Thus, we propose that the characteristics of convenience and relative safety inherent in the nature of the internet will greatly increase the attractiveness and feasibility of cyberloafing as one way in which employees may take back what they feel their employers owe them.

However, since people generally wish to project a positive image of themselves, we further propose that employees would first be motivated to rationalize their act of cyberloafing. Therefore, drawing from neutralization theory, we posit that it is plausible that employees who perceive injustice in the employment relationship will engage in neutralization via the metaphor of the ledger before engaging in cyberloafing. Specifically, given that they feel that they have accumulated credits from the work that they have completed, it would only be too easy for employees to justify cyberloafing as 'cashing in' these accrued credits which they perceive employers to have not adequately rewarded.

Therefore, based on the preceding discussion, we put forth the following hypotheses:

Hypothesis 1a: Distributive justice is *negatively* associated with neutralization through the metaphor of the ledger.

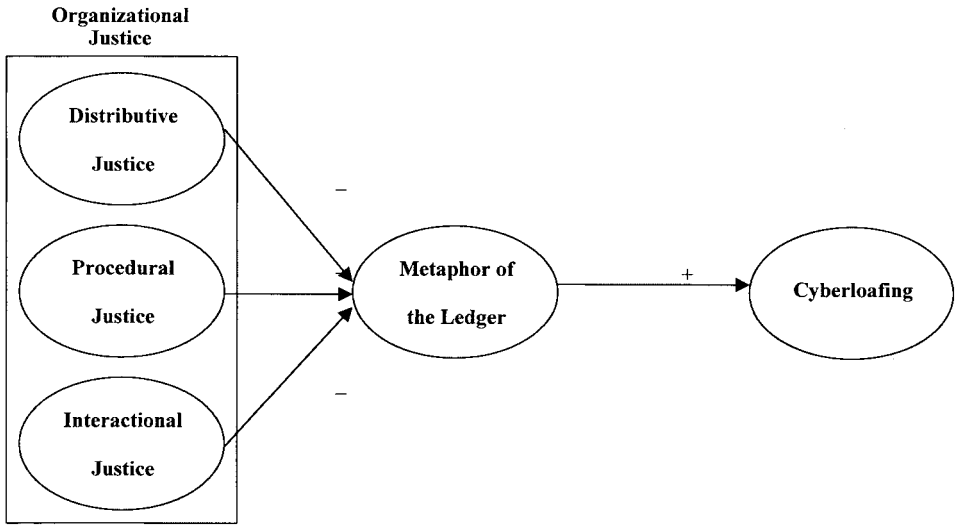

Figure 1. Hypothesized structural equation model (◯ = Latent factor)

Hypothesis 1b: Procedural justice is *negatively* associated with neutralization through the metaphor of the ledger.

Hypothesis 1c: Interactional justice is *negatively* associated with neutralization through the metaphor of the ledger.

Since neutralization serves the purpose of alleviating any guilt that individuals having the intention of committing deviant acts may experience, we expected that insofar as employees are inclined to engage in neutralization via the metaphor of the ledger, they would find it easier to engage in the act of cyberloafing as a means to restore the perceived injustice that they experience in their relationship with their employers. Along this line, therefore, we put forth the following hypothesis:

Hypothesis 2: Neutralization through the metaphor of the ledger is *positively* associated with cyberloafing.

Figure 1 depicts the relationships among the key variables in this study.

Organizational Context

Internet use and users in Singapore

Respondents comprised Singaporean working adults with access to the internet while at work. Singapore is a small island of 650 square kilometres in Southeast Asia. It has a population of about 4 million people. Singapore has been very quick to recognize the potential of the internet in the development of its economy and the government has channelled its energy into harnessing the internet as a business tool.

The internet has performed 2 crucial roles in Singapore. First, it functions as a powerful tool to build and bind communities together. On the social side, this will help to foster teamwork and social

cohesiveness in a multi-ethnic society such as Singapore. On the business side, the internet helps to facilitate electronic collaborations among various parties. Second, the internet performs a critical role in spearheading the government's IT vision of Singapore being a fully wired information society. (Lim, Teo and Loo, 2002; Teo, Lim and Lai, 1997). Thus, with widespread internet access both at home and at work, Singaporeans are generally internet-savvy, and thus, an ideal target participants for our study. The issue of cyberloafing would therefore, be of great relevance to this group of people and findings of the study, thus generating sufficient interest and serving as a motivator for them to participate in the study.

Method

Procedures for data collection and samples

Data were obtained through the use of an electronic questionnaire which was posted on the internet. This method of data collection was deemed appropriate for our study for several reasons. Cheyne and Ritter (2001) noted that as in traditional surveys, in online surveys, respondents must be carefully and appropriately targeted in order to produce better results. Thus, for purpose of this study, we use an online survey as it provides us with access to an enormous pool of employed adults who are internet-savvy; that is, individuals who are able to cyberloaf if they are inclined to do so.

A second consideration which guides us in the selection of our sample and data collection procedure is the generalizability of our findings. By targeting employed individuals who have internet access at the workplace and are internet savvy, we will be able to generalize our findings to this population of internet users.

Third, cyberloafing will be a relevant issue only for individuals who are provided with access to the company's internet facilities at the workplace. Thus, we targeted respondents who have access to the internet at the workplace because the topic of cyberloafing and internet usage at the workplace will be of high salience to such individuals; as such, they will be better able to provide a clearer and relevant opinion of this issue.

Fourth, previous research has shown that people exhibit lower social desirability when they respond to an online rather than a paper-based questionnaire (e.g., Joinson, 1999; Cheyne & Ritter, 2001; Sproull & Kiesler, 1991). These scholars found that internet surveys can actually produce higher quality results than traditional paper and pencil surveys for some topics. For example, Sproull and Kiesler (1991) found that respondents who completed a survey on drug use through an online survey actually reported higher drug use compared with students in the mail questionnaire. They argued that electronic media, which gave fewer social cues, allowed people to have a sense of privacy. Thus, for socially undesirable behaviors, the electronic media was superior to traditional method of data collection as people were less inhibited in their responses. Hence, given that we are trying to elicit responses to behaviors (i.e., cyberloafing) which may reflect negatively on respondents, we decided to use an electronic questionnaire in order to ensure that social desirability is kept to a minimum and anonymity ensured.

Prior to posting the questionnaire on the internet, the instrument was first pre-tested with two undergraduate internet users. While no major problem was detected, several minor modifications were made based on their feedback regarding the clarity of some items as well as the overall presentation of

the survey. The second round of pre-test was conducted using three working adults. No major adverse comments were raised by these working adults. Thus, the survey instrument was deemed ready for actual respondents.

The survey site was publicized in various newsgroups. Hyperlinks were also placed on the 'What's New' page of Singnet (internet service provider in Singapore) as this was one of the more popular sites with local Web surfers. To encourage participation in the survey, a token phonecard was offered as an incentive to the first 100 participants. A total of 188 surveys were received. Since the use an electronic questionnaire enabled us to ensure that all items in the questionnaire are filled in completely and appropriately, all 188 surveys were used in our data analyses.

Of these 188 respondents, about 47 per cent were men. The average age of respondents was 30 years ($SD = 7$). About 85 per cent of respondents had at least a diploma or a bachelor's degree. Respondents reported that, on average, they use the internet while at work for about 2.4 hours each day ($SD = 2$), and have been using the internet for about 2.6 years ($SD = 2$). Thirty-four per cent of respondents worked for organizations in the public sector, while the rest worked for organizations in the private sector. Fifty-five per cent of respondents worked in the IT industries, 20 per cent from the service industry, while finance and manufacturing constitute the rest.

We compared our sample characteristics with those of studies conducted on internet users both locally (e.g., Teo, Lim, & Lai, 1997; Chong & Foo, 1997—Paper presented at the Academy of Management Meeting, Boston) and in the US (e.g., Graphics, Visualization, & Usability (GVU) Centre, 1998). Respondents in all these studies were predominantly male (89 per cent for Teo et al. and Chong and Foo and 66 per cent for GVU). However, GVU's study reported that there was an increasing trend in the number of women users, particularly in Europe. Thus, it is possible that the almost even distribution of men and women in our study is due to the local government adopting a proactive stance towards IT adoption here.

Our sample was also comparable to those in previous research in terms of age and educational level. For example, the majority of respondents in Teo et al.'s (1997) study were in the 16–30 years age group, while the respondents in GVU's (1998) study averaged about 38 years of age. Additionally, both studies also found that the general internet user was college (or its equivalent) educated.

About a month after the survey was first posted, focus group interviews were conducted with 20 respondents who had agreed to be interviewed. The purpose of these interviews was to elicit comments which could further our understanding of cyberloafing at the workplace.

Each interview session lasted an average of one hour and was structured as a conversation focusing on issues which revolved round the use of the company's internet facilities during working hours for non-work purposes. Respondents were asked what they thought about this issue, what they thought their companies' or managers' positions were on this issue, whether policies regarding the acceptable or unacceptable use of company's internet facilities exist. They were also asked to indicate reasons or occasions whereby it would be alright for employees to use the company's internet access during working hours for non-work reasons.

Measures

Organizational justice

The three justice variables were measured using scales developed by Moorman (1991). Distributive justice was measured with five items ($\alpha = 0.95$) pertaining to individuals' perceptions of the extent to which they have been fairly rewarded by their organizations based on items such as: 'The responsibilities you have'; 'The stresses and strains of your job'; and 'The work that you have done well'.

Procedural justice was assessed with seven items ($\alpha = 0.95$) which pertained to respondents' perceptions regarding the fairness of organizational procedures. Examples of items include: 'How fairly are the organizational procedures designed to (a) provide opportunities to appeal against or challenge a company's decision; (b) hear the concerns of everyone affected by a company's decision; and (c) generate standards so that decisions can be made with consistency'. Items for both distributive and procedural justice were scored on a 5-point scale ranging from (1) Very Unfair to (5) Very Fair.

The scale for interactional justice included six items pertaining to whether organizational procedures were enacted properly and fairly by supervisors. Items, which were scored on a 5-point scale ranging from (1) Strongly Disagree to (5) Strongly Agree, include: 'My supervisor (a) provides me with timely feedback about decisions and their implications; (b) is able to suppress personal bias; and (c) treats me with kindness and consideration'. The Cronbach alpha for this scale was 0.93.

We performed confirmatory factor analyses for the justice variables to ensure that they are three separate constructs. Overall fit of the justice variables was assessed using multiple fit indices, namely: (1) goodness of fit (GFI), (2) normed fit index (NFI); and (3) comparative fit (CFI) indices and root mean square residual (RMR). Values of greater than or equal to 0.90 for the first three fit indices, and 0.05 and below for RMR suggest acceptable fit. Results of CFA, shown in Table 1, suggest that the three justice variables are indeed separate constructs, as predicted by previous research on organizational justice (e.g., Moorman, 1991; Niehoff & Moorman, 1993).

The metaphor of the ledger

We assessed this variable using the scale developed by Hollinger (1991). Examples of items include: 'In my opinion, it is alright for me to use the internet for non-job related reasons if I: (a) Have to put in

Table 1. Results of confirmatory factor analyses (CFA) for organizational justice

Justice items	Factor loading'
Distributive justice ($\alpha = 0.95$)	
How fairly has the organization been rewarding you . . .	
for the amount of effort you have put in?	0.92
for the responsibilities you have?	0.91
for the work that you have done well?	0.89
for the stresses and strains of your job?	0.89
for the amount of education and training you received?	0.85
Procedural justice ($\alpha = 95$)	
How fairly are the organization's procedures designed to . . .	
provide useful feedback regarding a company's decision and its implementation?	0.90
hear the concerns of everyone affected by a company's decision?	0.88
allow for requests for clarifications or additional information about a company's decision?	0.88
have all parties affected by a decision included in the decision-making process?	0.86
help you to collect accurate information for decision-making?	0.84
generate standards so that decisions can be made with consistency?	0.83
provide opportunities to appeal against or challenge a company's decision?	0.81
Interactional justice ($\alpha = 0.93$)	
My supervisor shows concern for my rights as an employee	0.92
My supervisor treats me with kindness and consideration	0.88
My supervisor take steps to deal with me in a truthful manner	0.84
My supervisor is able to suppress personal bias	0.78
My supervisor considers my viewpoint	0.76
My supervisor provides me with timely feedback about decisions and their implications	0.75
Chi-square = 295.53.06 $df = 132$	
GFI = 0.90 NFI = 0.92 CFI = 0.95 RMR = 0.045	

Table 2. Results of exploratory factor analyses (EFA) for cyberloafing

Browsing activities	
Eigenvalue = 5.08, variance explained = 46.2%, $\alpha = 0.85$	
1. Sports related Web sites	0.87
2. Investment related Web sites	0.82
3. Entertainment related Web sites	0.80
4. General news sites	0.75
5. Non-job related Web sites	0.73
6. Download non-work related information	0.68
7. Shop online for personal goods	0.60
8. Adult-oriented (sexually explicit) Web sites	0.55
E-mailing activities	
Eigenvalue = 1.46, variance explained = 13.3%, $\alpha = 0.90$	
1. Check non-work related e-mail	0.90
2. Send non-work related e-mail	0.87
3. Receive non-work related e-mail	0.85

extra work because I do not receive enough help and equipment; (b) Were asked to do excessive amounts of work; and (c) Have to put in extra time at work to get the job done', among others. Items were scored on a 5-point scale ranging from (1) Strongly Disagree to (5) Strongly Agree.

Cyberloafing

Based on the studies conducted by Teo et al. (1997), Lim et al. (2002) and Vault.com (1999), as well as interviews conducted with several working adults on what particular uses of the internet constitute cyberloafing, we first came up with 15 items to assess cyberloafing behaviors at the workplace. We then took a number of preliminary steps to increase the psychometric quality of this scale before posting the questionnaire on the internet. First, the scale was pre-tested with two colleagues and 15 working adults. Comments and suggestions obtained from this pre-test served as a basis for fine-tuning the scale. Based on this feedback received regarding clarity and appropriateness of individual items, we eliminated four items. This resulted in a final scale comprising of 11 items being used in the final questionnaire, in which respondents were asked to indicate how often they engaged in activities such as using the internet to surf non-job related Web sites and sending personal e-mails (1 = Never to 5 = Constantly) during working hours.

We conducted an exploratory factor analysis (EFA) to ascertain the underlying factor structure for the 11 newly developed cyberloafing items. A principle components analysis with varimax rotation was used. Two factors, accounting for about 59 per cent of the variance, were retained. The first factor, browsing activities, consisted of eight items ($\alpha = 0.85$) pertaining to how often individuals used the internet during working hours to surf various non-job related Web sites, such as those which are investment-, sports- or entertainment-related. The second factor, e-mailing activities, included three items ($\alpha = 0.90$) which assess how often they sent and checked personal e-mails during working hours. Results of EFA are shown in Table 2.

Analyses and Results

The means, standard deviations, correlations and reliabilities of the variables in this study are presented in Table 3. Results of correlational analyses suggest that in general, the variables in our study were significantly correlated in the expected directions.

Table 3. Means, standard deviations, correlations and reliabilities*

Variables	Mean	*SD*	1	2	3	4	5
1. Distributive justice	3.15	1.13	(0.95)				
2. Procedural justice	3.01	1.02	0.75†	(0.95)			
3. Interactional justice	3.60	0.95	0.62†	0.61†	(0.93)		
4. Metaphor of the ledger	3.26	0.95	−0.43†	−0.41†	−0.37†	(0.88)	
5. Cyberloafing	3.02	0.96	−0.38†	−0.38†	−0.29†	0.39†	(0.88)

*$n = 188$. The numbers in parentheses on the diagonal are coefficient alphas.
†$p < 0.001$.

Structural equation modelling

We used structural equation modelling (SEM) to empirically examine the relationships among variables in our study. Consistent with Anderson and Gerbing's (1988) recommendations, we assessed the absolute fit of our hypothesized model by conducting a nested models comparison. First, we compared our hypothesized model to (1) a null model, in which all correlations among variables are zero; and (2) the measurement model. Next, our hypothesized model was compared to two less constrained alternative models, namely (3) a model whereby paths were added from the three justice constructs to cyberloafing, which would enable us to test whether the justice variables exert direct effects on cyberloafing, in addition to the indirect effects via neutralization through the metaphor of the ledger; and (4) a model whereby paths were added from the three justice constructs to cyberloafing, but the path from neutralization to cyberloafing is removed. We removed this path in the second less constrained model because, to the best of our knowledge, no study has been conducted to examine neutralization through metaphor of the ledger in conjunction with cyberloafing. Thus, by removing this, we would be able to test if this removed path is indeed of significance to our theoretical model.

For latent variables measured with single indicators, we took measurement error into consideration by setting the path from the latent variable to the scale score equal to the product of the square root of the reliability and its standard deviation, and by setting the error variance equal to the product of the variance of the scale score and one minus the reliability (Niehoff & Moorman, 1993). Again, we used the chi-square statistic, NFI and CFI to evaluate the fit of the model. We assessed the series of nested models using the sequential chi-square difference test (SCDT), which refers to the chi-square difference between two nested models (Anderson & Gerbing, 1988). A non-significant chi-square difference value suggests that the hypothesized model should be accepted.

Results of structural equation modelling

We analysed the data based on the total sample ($n = 188$). Results indicate that our theoretical model shown in Figure 1 provided a good fit. A non-significant chi-square value ($\chi^2[6, 188] = 8.08$) was obtained. Both NFI (0.97) and CFI (0.98) also met the acceptable benchmark value of 0.90 and above. Thus, these measures suggest that our model does fit the data relatively well. Next, we conducted a nested models comparison. We compared the hypothesized model to the two less constrained alternative models. Results suggest that our hypothesized model was superior to both the first less constrained alternative ($\chi^2[3, 188] = 2.31$, n.s., $\chi^2_{\mathrm{d}} = 5.77$, $df = 3$, n.s.) for the model with paths added from the three justice variables to cyberloafing; and the second less constrained alternative ($\chi^2[4, 188] = 3.14$, n.s.; $\chi^2_{\mathrm{d}} = 4.94$, $df = 2$, n.s.), for the model with paths added from the three justice variables to cyberloafing and the path from neutralization to cyberloafing removed). Thus, our hypothesized model explained the data better than these two less constrained alternative models.

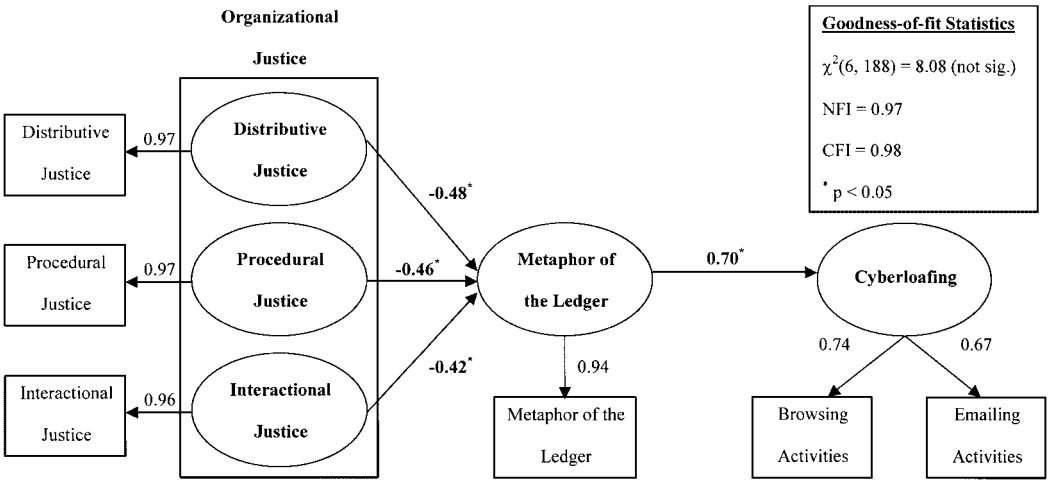

Figure 2. Final structural equation model (Key: ○ = Latent factor; □ = Measured variable; Figures shown are standardized parameter estimates)

The final structural equation model, together with its standardized parameter estimates, is presented in a diagrammatic form in Figure 2.

Results in Figure 2 suggest that distributive justice (beta = −0.48), procedural justice (beta = −0.46), and interactional justice (beta = −0.42) are significantly and negatively associated with the metaphor of the ledger. Therefore, empirical support is provided for Hypotheses 1a, 1b and 1c. Additionally, results in Figure 2 suggest that Hypothesis 2 is also supported. Specifically, neutralization through the metaphor of the ledger is significantly and positively associated with employees' tendency to cyberloaf (beta = 0.70).

Discussion

Our study examined the misuse of the internet at the workplace by employees (i.e., cyberloafing) from the combined perspectives offered by social exchange, organizational justice and neutralization. Specifically, our findings suggest that when organizations are distributively, procedurally and interactionally unjust in their treatment of their employees (i.e., organizations have not given expected rewards or fair treatment in exchange for fair work), these employees are more likely to invoke the neutralization technique—the metaphor of the ledger—to legitimize their subsequent engagement in the act of cyberloafing. Since neutralization enables them to justify their otherwise deviant actions, employees thus exhibit a greater propensity to engage in cyberloafing.

Our results are noteworthy in that they suggest that exchange principles governing relationships are applicable to the understanding of new problems posed by new technology. That is, employees who are disgruntled because they perceive that there is an imbalance in the employment relationship as a result of unjust treatment would be inclined to reinstate a sense of justice into the relationship through cyberloafing. Our findings further highlight the interesting possibility that before they do so, they would actually neutralize their questionable actions via the metaphor of the ledger in an attempt to ameliorate any feelings of guilt which they may experience.

Individuals may make an effort to neutralize their guilt *prior* to cyberloafing for several reasons. One plausible explanation is that while employees may be unhappy with their employers as a consequence of perceived injustice, they may still retain some form of commitment to the norm that it is generally not right to engage in any wrongdoing. Thus, by rationalizing that what they are contemplating to do (e.g., cyberloafing) is not unacceptable, and in fact, perfectly justifiable since they have already put in time and effort to perform their job duties (i.e., neutralization through the metaphor of the ledger), employees are able to cyberloaf without having to feel guilty and convince others that they are merely taking what they deserve. That is, they perceive themselves to be fully entitled to use the time, which should be spent working, surfing the internet, since they had already put in time to do work which has not been fully appreciated and/or rewarded by their employers. Indeed, comments from respondents who were interviewed provided support to this line of reasoning:

'*Personally, I think that although using the internet at work for personal purpose is wrong in principle, I would still do it because it is actually a type of payment in kind from the company for the work I do.*'

'*My boss is not the appreciative kind; I take what I can and whenever I can. Surfing the net is my way of hitting back'*.

In addition, we acknowledge that it is possible that employees may choose to retaliate against their employers for perceived injustice through other means. However, given the convenience and the difficulty with which cyberloafing can be detected, it seems highly plausible that employees would take advantage of this evolved form of production deviance as a way of discreetly imposing some form of penalty on their employers for not having reciprocated the employees' input(s) into the employment relationship. Comments from our respondents who were interviewed further highlighted the apparent ease with which cyberloafing in particular may be neutralized through the metaphor of the ledger, and thus easily engaged in:

'*It is alright for me to use the internet for personal reasons at work. After all, I do work overtime without receiving extra pay from my employer.*'

'*I don't see anything wrong with using the company's internet access for non-work purposes as long as I do not do it too often, and complete my work as required by my boss.*'

'*It is OK to surf the net for non-work reasons because my boss is biased and does not treat us well.*'

Thus, results of our study provide preliminary evidence suggesting that employees do cyberloaf when they feel that they have not been justly treated and after legitimizing the act of cyberloafing through invoking the metaphor of the ledger.

Theoretical implications

Our results provide encouraging evidence which suggests that neutralization theory may be useful in shedding light on why workplace deviance continues to be a pervasive problem in organizations. To date, however, only a few studies have attempted to utilize neutralization theory as a framework for understanding employees' misbehavior at the workplace (e.g., Hollinger, 1991; Dabney, 1995). Previous studies have established that employees are motivated to redress perceived injustice in the employment relationship through various forms of misbehaviors when they perceive themselves to have been unfairly treated. Drawing in part from neutralization theory, our study examined the possibility that prevailing norms regarding appropriate behaviors may actually hold these employees back

from the deviant act of cyberloafing and that a plausible explanation as to why employee misbehavior is not that uncommon is that employees may invoke the metaphor of the ledger to justify their actions to themselves as well as to other organizational members.

Results suggest that this is indeed the case. That is, employees can easily convince themselves that, by cyberloafing, their misbehavior is not unacceptable since they have accrued sufficient credits previously, through the time and effort which they put into completing their work. Cyberloafing is simply a means of 'cashing in' these accumulated credits and is viewed as a fair entitlement. In this manner, employees will find it all too easy to cyberloaf while at work.

Managerial implications

Findings of our study are instructive because they not only highlight that cyberloafing does indeed occur at the workplace, but also that neutralization is at work in the organizational setting. The latter is especially noteworthy as employees may not only be neutralizing cyberloafing but also other more potentially detrimental deviant acts at the workplace. Managers need to be aware of this fact and take the necessary steps to neutralize these neutralization techniques in their attempts to keep cyberloafing, and other deviant behaviors to a minimum level within their own organizations.

Results of our study suggest that to the extent that employees put in time and effort to fulfill their job duties, they expect to be fairly treated by their employers. When employers fail to reciprocate by treating these employees in a just manner, it becomes all too easy for employees to invoke the metaphor of the ledger and neutralize their subsequent attempt to take time back from their employing organizations through such acts as cyberloafing. Thus, managers need to realize that despite the tremendous changes that have been wrought upon the workplace by technology, the quaint and simple norm of reciprocity is still very much in operation.

To make it more difficult for employees to justify the illegitimate and costly act of cyberloafing, employers need to ensure that employees are not tempted to utilize the metaphor of the ledger to justify cyberloafing. This can be done by treating employees fairly, and ensuring that the work environment is adequately conducive for productive work to take place in order to reciprocate employees' investment of time and effort in their work.

According to Robinson and Kraatz (1998), neutralization techniques are more easily invoked in organizational cultures in which there are few or weak norms governing what constitutes acceptable behaviors. Thus, another way in which organizations can neutralize the possibility of employees indulging in the use of neutralization techniques would be to establish clear and explicit guidelines with regard to behaviors which the organizations would deem tolerable or otherwise. In this case, to curb employees from invoking the metaphor of the ledger to rationalize cyberloafing, organizations should develop and implement a workplace policy governing the acceptable use of the internet while at work. Some of the issues that need to be addressed include the Web sites that can be accessed in the work premises using internet access provided by the company regardless of whether the sites are visited during work or non-work hours. For example, organizations may choose to block access to adult-oriented Web sites altogether. Organizations will also need to deal with the issue of whether it will be appropriate for employees to use the internet for personal purposes during lunch hours and after office hours.

Another issue that the organizational policy on internet regulation will need to address is that of monitoring. Keng, Nah, and Teng (2002) noted that monitoring the employees' e-mails and where they surf remain primary priority for most organizations. They cautioned, however, that should organizations decide to track their employees' movements in cyberspace and monitor the e-mails that are being sent and received via the company server, this must be explicitly stated in the policy. This is to avoid

the situation in which employees become disgruntled because they view that their privacy has been invaded when the organization engages in such forms of monitoring, or simply view monitoring negatively as it reflects a lack of trust in them. As Meckbach (1998) noted, while various forms of monitoring would enable organizations to determine if employees were actually working, monitoring may in fact be counterproductive as it can cause resentment in employees at being treated like children. Comments elicited from respondents who were interviewed lend support to this being an issue of concern:

'*If there is a need to regulate, the company is better off not providing internet access to its employees.*'

'*I guess the company could track the sites visited by the employees . . . but I think it (tracking) shows that the company doesn't respect their employees' privacy!*'

'*If my company monitors my movements and activities in virtual space, it is a sign that it does not trust its employees and the relationship will be strained*'.

Furthermore, organizational internet policies will need to outline clearly the disciplinary consequences that employees will have to face if they flout the guidelines stated explicitly in the policy. As with all other types of organizational policies, disciplinary actions must be meted out accordingly; otherwise, the purpose of having the policy in the first place would have been defeated. Finally, for such a policy to be effective, it must be communicated to all employees as soon as they join the company, and also every time the policy is updated. It is only then that employees will find it difficult to bend the rules through such neutralization techniques as the metaphor of the ledger.

Limitations and directions for future research

Our research, while providing insightful results, is not without its limitations which should be taken into consideration in its interpretation. First, our study relies exclusively on cross-sectional, self-reported data. While we attempted to supplement the online survey data with focus-group interviews, we acknowledge that the use of cross-sectional data precludes the possibility of making causal inferences about the relationships among the variables examined. Thus, a longitudinal design in future research would be able to lend further confidence in our ability to make causal inferences. While the nature of the variables under study renders the use of self-reports as appropriate, relying entirely on self-reports raises the issue of whether results may have been inflated due to common method bias. Thus, future studies should further reduce the potential of common method bias by supplementing the self-reports with reports from other sources. For example, a clearer picture of the justice climate that prevails in the organizations may be captured by obtaining managers' responses with regard to this issue.

Second, the use of an online survey methodology may also render the sample to an inherent bias in that the respondents who participated in the survey may also be the kind of employees who are likely to cyberloaf. However, the choice of data collection procedure is guided by the consideration that respondents who participated in our survey will be able to provide a clear and relevant opinion of this issue. Since cyberloafing will be a relevant issue only for individuals who are provided with access to the company's internet facilities at the workplace, for purpose of the present study, we targeted respondents who have access to internet at the workplace because the topic of cyberloafing and internet usage at the workplace will be of high salience to such individuals; as such, they will be better able to provide a clear and relevant opinion on this issue. Additionally, previous studies suggested that people tend to demonstrate lower levels of social desirability when they respond online compared to a pen-and-paper

questionnaire (Cheyne & Ritter, 2001). Since the present research attempts to generate responses to a deviant behavior (cyberloafing), we decided to use an online survey to minimize social desirability.

To mitigate the problem of sampling bias, we compared the characteristics of our respondents with the characteristics of the typical internet users in Singapore and found that the respondents in our study were not systematically different from those of the average internet users in terms of age, educational level, experience with internet usage and usage of Internet while at work. However, as in any kind of research utilizing the survey methodology (traditional or online surveys), we do acknowledge that the current method of data collection is not totally foolproof. Future attempts to examine the phenomenon of cyberloafing may want to adopt a traditional, as well as online surveys, to see if the current findings are replicated.

In addition, although the metaphor of the ledger was viewed to be particularly suitable to be examined in relation with the other variables included in our study, there may be concerns regarding the focus on only one technique of neutralization in our study. Therefore, future work that integrates the neutralization and workplace deviance research would serve to further enhance our understanding of both topics by incorporating and operationalizing other relevant neutralization techniques, such as those originally proposed by Sykes and Matza (1957) (e.g., denial of victim, condemnation of condemners and appeal to higher loyalties) or those proposed by Greenberg (1998), and Robinson and Kraatz (1998).

Third, it is also possible that there exists other predictors of cyberloafing other than organizational justice. For example, some individuals may be more inclined to cyberloaf relative to others. Thus, individual differences variables such as Machiavellianism may be examined in conjunction with cyberloafing. In addition, situational variables such as frustration arising from work may also influence individuals' tendency to cyberloaf. Hence, future research may also want to take into account the effects of situational variables.

In line with Robinson and Bennett's (1995) typology of workplace deviance which suggests that deviant behaviors vary along two dimensions, namely (1) minor versus serious and (2) interpersonal versus organizational, future research may want to extend this study by investigating cyberloafing activities which are specifically targeted at harming the organization and those which are intended to harm its members (e.g., sending inflammatory personal e-mails to coworkers). It is plausible that individuals invoke different neutralization techniques to exonerate themselves from engaging in the different types of cyberloafing acts.

Concluding Remarks

Workplace internet usage is increasing dramatically around the world. While this rapid growth has led to much attention being focused on the impact of internet usage on productivity, much of the work in this area has thus far largely examined the positive productivity influences brought about by the Internet. Our study is, thus, noteworthy in that it represents one of the few empirical endeavors to delve into the area of how the Internet not only creates a brave new workplace by revolutionizing the ways in which work can be done, but also transforms the ways in which loafing can be done.

Despite the limitations inherent in our study, findings of our study are instructive in that they focus our attention on one of the possible unforeseen negative consequence of the technology-enabled workplace (i.e., cyberloafing). Additionally, results also highlight the intricacies surrounding employees' actual engagement in deviant behaviors at the workplace. Specifically, while some employers may view cyberloafing as something trivial which can be overlooked, our study highlights the fact that

employees view cyberloafing as something which is very easily neutralized (i.e., rationalized), and thus, an activity in which they may freely indulge in with little or no qualms. Furthermore, employees' propensity to cyberloaf, while being motivated by perceived imbalances in the social exchanges that characterize the employment relationship, may in fact be further facilitated by the invocation of neutralization techniques. Thus, while existing research suggests that employers need to be just in order to minimize the occurrence of workplace deviance, results of our study are noteworthy in that they highlight how neutralization techniques, like the metaphor of the ledger, make it all too easy for employees to misbehave in the organizational context.

From a researcher's perspective, while neutralization theory may be into its fourth decade of existence since being first proposed by Sykes and Matza (1957), results of our study indicate that the theory may be applied to further our understanding of workplace deviance in future organizational behavior research. From a practitioner's perspective, our findings suggest that managers need to understand and fully appreciate the cumulative effects of the occurrence of cyberloafing in their organizations. With the introduction of the internet at the workplace, a very easy way of loafing while under the guise of being hard at work is now placed in the hands of employees. Although it is important to trust employees to utilize this productivity tool properly, managers must also understand the cognitive processes underlying deviant behaviors like cyberloafing in order to fully deal with the recalcitrant behaviors exhibited by employees, and ensure that the Internet works *for*, and not *against* the company.

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