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Disaffection or expected outcomes: Understanding personal Internet use during work

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Many contemporary analyses of personal Internet use during work explain the behavior in terms of workplace disaffection. However, evidence for this interpretation is mixed. This article posits that an approach emphasizing the expected outcomes of Internet use more effectively explains the behavior. The 2 approaches are tested using survey data collected from more than 1,000 U.S.-based computer-using workers. About 4/5 of those workers do engage in personal Internet use during work. Regression analyses show that workplace disaffection factors, such as stress and dissatisfaction, have no significant influence on the extent of web surfing or personal e-mail use during work. In contrast, factors which shape the expected outcomes of personal Internet use during work, such as a generalized positive perception of the utility of the Internet, routinized use of computers, job commitment, and organizational restrictions on computer use, are very significant predictors of such behavior. These results suggest that employees use the Internet for personal purposes at work for many of the same reasons that they use it elsewhere. Implications of these findings are explored.

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Introduction

"Cyberslacking," as it is frequently called in the popular press, has attracted the attention of scholars and businesses worldwide. This pejorative term, like its more cumbersome alternatives "nonwork-related computing" and "personal Internet use at work," refers generally to unauthorized personal use of company-provided Internet access during scheduled work time. These terms differ in their nuances – cyberslacking explicitly invokes a sense of purposeful misconduct, while personal Internet use is more neutral and can be conceived of as having both benefits and harms – but the behavior is widely regarded as a form of "computer abuse" (Anandarajan & Simmers, 2004a; Z. Lee, Lee, & Kim, 2004; Lim, 2002), a broad category that has been a topic of study for more than a decade (Guthrie & Gray, 1996; Straub & Nance, 1990).

Although not as damaging as other forms of computer abuse such as the theft or destruction of proprietary data and software, personal use of the Internet during work is commonly considered problematic. An obvious concern is the potential productivity costs associated with the activity. Considered in aggregate, the time that employees spend online paying personal bills, shopping, checking stock prices, playing games, communicating with friends and family, and so on while "on the job" can add up to a substantial amount of wasted, unproductive time (Young & Case, 2004). For example, according to one estimate, time spent checking on the 2007 NCAA men's college basketball championship tournament at work via the Internet cost employers in excess of $1.2 billion (Challenger Gray & Christmas Inc., 2007). Similarly, a time use survey recently concluded that U.S. workers "waste" 1.7 hours per workday on personal activities, and by far the largest proportion of that time is web surfing (Salary.com, 2007).

In the literature today, many scholars explain personal Internet use in terms of employee disaffection (Z. Lee, Lee, & Kim, 2004; Lim, 2002; Lim, Teo, & Loo, 2002; Mastrangelo, Everton, & Jolton, 2006). Nonproductive activities such as web browsing and personal e-mail use are regularly cited as examples of workplace deviance, alongside more destructive forms of computer abuse, such as sabotage and theft (Beugré, 2006, p. 227; Lim, 2002, p. 677). This view emphasizes the influence of provocation and negative workplace affect, and frames personal Internet use as an attempt to alleviate this disaffection. Although disaffection is not the only explanation for personal Internet use in the workplace, this view is widespread. [1] We believe that the disaffection-oriented approach may be effective for explaining more destructive forms of computer abuse, such as destroying data or harassing coworkers, but we question its power to explain *nonproductive* Internet use, such as personal web browsing and e-mailing during work.

In this article, we seek to advance an alternative explanation, in Gilbert Ryle's (1949) sense that "alternative" explanations might be complementary and reinforcing, rather than "competing" explanations that are mutually exclusive. Rather than focusing solely on disaffection and deviant behavior, we emphasize the ways in which personal Internet use during work resembles Internet use in other contexts.

In the next section, we outline the two approaches, reviewing the limitations of workplace disaffection as an explanatory factor and presenting our case for the complementary approach emphasizing the expected outcomes associated with use of the Internet. We then describe the national telephone survey, analytic methods, and variables on which our analyses are based. In the third section, we present the results of our empirical analysis, which provides substantial support for the outcomes-based model while casting doubt on the viability of workplace disaffection as the primary means of understanding everyday personal Internet activity during work. We conclude with a discussion of the significance of these findings, reflecting on what the results mean for organizations concerned about such personal use.

Motivations for personal Internet use during work

Research examining motivations for personal Internet use in the office frequently treats this activity as deviant behavior employed in order to reduce negative affect associated with the workplace. On this view, dissatisfaction, stress, and perceived injustice at work provoke such behavior by employees (Beugré, 2006; O.-K. D. Lee, Lim, & Wong, 2005; Mahatanankoon, 2006; Mastrangelo, Everton, & Jolton, 2006; Phillips, 2006). Cyberslacking (sometimes also termed cyberloafing) – which is characterized as intentional, production-deviant behavior (Lim, 2002) – is one possible computer-related response to these provocations; other responses described in the literature include stealing or destroying company data, harassing coworkers via e-mail, and distributing viruses over a corporate network (Beugré, 2006; Mahatanankoon, 2006).

Much of the research in this area, however, focuses on personal web browsing and e-mail use to the exclusion of computer crimes and other malicious computer abuses in the workplace (Anandarajan, 2002a; Lim & Teo, 2006). Although we agree that the most extreme forms of deviant computer use identified in the literature may well be an aggressive response to workplace provocation, we question the assertion that this motivation applies equally to most personal Internet use during work. On the contrary, we suggest that many individuals who use the Internet for personal purposes during work are neither seeking retribution against their employer nor intentionally undermining their organization. Instead, we posit that many employees are responding to the appeal of the capabilities afforded by the technology.

The empirical evidence regarding the disaffection model of personal Internet use is mixed. On the one hand, survey data collected in Singapore (N = 188) [2] indicate that browsing the web at work is inversely correlated with the perception that employees are fairly rewarded, that the organization's decision making procedures are sound, and that supervisors treat employees with respect (Lim, 2002; Lim & Teo, 2006). Interview data collected in the same study indicate that many employees explicitly state that personal Internet use during work is justified by excessive or inconsistent job expectations (Lim, Teo, & Loo, 2002). On the other hand, a survey conducted among professional engineers (N = 400) found no evidence of a relationship between personal Internet use and job commitment levels, satisfaction, or stress (Stanton, 2002). Similarly, another large web-based survey based in the U.S. (N = 329) found that job satisfaction was uncorrelated with nonproductive computer use (Mastrangelo, Everton, & Jolton, 2006). Interview data complement these results as well. Contrary to claims that employees' personal web use is an aggressive response to negative workplace experiences, at least some employees see it more prosaically. An employee interviewed in one research study quipped, "Looking up a work-related news story easily leads to checking the baseball standings or a movie review. It will only take a couple of seconds, right? A couple of seconds is no big deal in the greater scheme of things" (Anandarajan, 2002b, p. 244). Comments such as this raise

questions about claims that negative emotions associated with the workplace lead to nonwork-related browsing.

In light of this evidence, we posit that negative affect toward the workplace has only a limited role in accounting for more extensive personal Internet use during work. Given the mixed results of prior studies, we believe that it is appropriate to test the claims that stress, dissatisfaction, and a sense of workplace injustice make personal Internet use more likely. As a consequence, we will empirically analyze the following three hypotheses to evaluate whether there is, in fact, a clear relationship between negative affect toward the work environment and greater personal internet use during work.

H1: Increasing job dissatisfaction is associated with higher levels of personal Internet use during work.

H2: Increasing job stress is associated with higher levels of personal Internet use during work.

H3: Greater perceived injustice at work is associated with higher levels of personal Internet use during work.

We do not suggest that web browsing is harmless, but rather that it is not primarily driven by a desire to "get even" with an employer. If we are correct, then there must be other factors motivating this behavior. An alternative to the disaffection-based explanations is the notion that personal Internet use at work is linked to the individual's broader, positive expectations about the technology and to its status as an increasingly taken-for-granted element of contemporary activities. There are two related parts to this perspective. The first aspect centers in the extent to which a given individual has a very favorable evaluation of how he or she has utilized the technology in the past to support a variety of activities. To the extent these uses have generally been constructive, that is, there have been benefits associated with use, it is reasonable to posit that the individual's expected utility regarding future use will increase.

There is ample evidence that a person's use of the Internet is guided by behavioral incentives, that people are motivated by *anticipated outcomes* (LaRose & Eastin, 2004; LaRose, Mastro, & Eastin, 2001). If an individual has had favorable experiences with the technology in the past, he or she will learn from these experiences, forming a positive overall assessment of using the technology. Conversely, if an individual's efforts to use the technology have been unsuccessful in the past, that individual will be less inclined to try to use the technology in the future. The resulting expectations about the utility of the Internet shape future usage levels (Lavoie & Pychyl, 2001; O. K. D. Lee, Lim, & Wong, 2005).

In the research cited, personal use of the Internet is motivated by expectations formed during prior *personal use*. We propose an extension of that logic, positing that the perceived utility of the Internet for personal objectives may also be shaped by *work use*. Just as experiences from outside the work environment can influence attitudes toward technology in the workplace (Orlikowski, 2000), we believe that

work-related experiences can shape expectations about the Internet's value for nonwork purposes. In this conceptualization, there is not a clear delineation between people's attitudes toward technology across these domains of use. This is particularly true of the Internet, which is a highly flexible information tool that can readily be applied to both personal and professional tasks. For example, if an individual regularly uses e-mail to communicate with coworkers, we also expect him to be confident about his ability to use e-mail to communicate with family. Thus, if a person sees the Internet as an effective tool for work, that individual will be more likely to use it for work *and* nonwork tasks, including personal information seeking and communication, even in the work context.

H4: Greater expected work utility of the Internet is associated with higher levels of personal Internet use during work.

The second element that might account for variations in personal Internet use during work relates to the extent of routinization of all forms of Internet use. *Routinization* is itself partially motivated by the utility of the technology (LaRose & Eastin, 2004). More broadly, regular use of the Internet, or computers in general, introduces a degree of automaticity that makes the behavior (Internet use) more likely in the future (LaRose, Lin, & Eastin, 2003; Phillips, 2006). Through this routinization process, the technology ceases to be the subject of attention and its use becomes more a matter of habit than of conscious decision. In this perspective, as an individual relies on computers to complete a wider variety of work tasks, the technology becomes a "ready-to-hand" tool for addressing needs and achieving goals (Dourish, 2004). Use of the Internet becomes an integral part of many individuals' standard operating procedures, during work as well as during other aspects of life.

If the employees' use of computers and the Internet has become an unremarkable aspect of the daily routine during work and nonwork activities, it is reasonable to posit a tendency to use these technologies at any point where they might be perceived to be useful, including a blurring of their specific work and nonwork uses, even during work. Reduced attention also means that individuals are less likely to self-regulate their personal use of the Internet, because self-regulation depends in part on conscious consideration of the individual's actions and their consequences (Bandura, 1986). Thus the more fully computer technology has been integrated into an employee's standard operating procedures at work, the more likely he or she is to turn to it for personal pursuits and the more common such pursuits are likely to be.

H5: More routinized computer use is associated with higher levels of personal Internet use during work.

Job commitment is another individual-level factor that might play a powerful role in shaping personal Internet use at work by influencing its expected benefits. For example, Carmeli (2005) argues that employees who are emotionally attached to their work organization will find personal Internet use to be less compatible with

work routines than those who are not. For a committed individual, nonwork-related activity reduces productivity, is inconsistent with self-image, and might undermine workplace status. These disincentives are consistent with the outcome expectancies that pattern Internet use in other contexts (LaRose & Eastin, 2004). These considerations suggest that individuals more committed to their work should be *less* likely to engage in personal Internet activities during work. Note that although commitment and job satisfaction are related concepts, lack of commitment is distinct in that it is less likely to prompt a dysfunctional workplace response. Whereas a dissatisfied employee might wish to do harm to the organization, an employee who is uncommitted is more likely to be indifferent to the employer's success. Uncommitted workers may not go out of their way to contribute to workplace productivity and may be more lax on the job, but their lack of commitment is insufficient motivation for them to purposively hamper workplace productivity.

H6: Greater organizational commitment is associated with lower levels of personal Internet use during work.

While the prior hypotheses consider key factors that might increase personal internet use during work, there are also contextual factors that might limit such use. In particular, Internet use restrictions during work imposed by the employer are a related factor. By limiting employees' use of work computers, whether through policy, technological deterrents, or both, employers reduce the benefits of using the Internet for nonwork purposes while promoting employee self-regulation. Both these changes could reduce personal Internet usage levels. According to Bandura (1986), self-regulation is based in part on the judgmental process through which an individual evaluates his or her actions based on personal standards and group norms. Restrictive computer use policies can serve to make organizational expectations regarding personal Internet use more salient, thereby strengthening the influence of the judgmental process on self-regulation.

It should be noted, however, that empirical tests of this relationship have generated mixed results. A study of computer use log data collected in a classroom setting provides some evidence that monitoring is associated with reduced nonproductive Internet activity (Urbaczewski & Jessup, 2002). However, a number of studies conducted in the 1990s which analyzed more severe forms of workplace computer abuse failed to find evidence of a deterrence effect from organizational restrictions and monitoring of computer use (see J. Lee & Lee, 2002). Also, recent survey-based research found no relationship between restrictive computer-use policies or monitoring and self-reported nonproductive Internet use at work (Mastrangelo, Everton, & Jolton, 2006). Given this mixed evidence and the inherent plausibility that organizational restrictions could have an impact, we believe that analyzing the effect of this factor is theoretically sound.

H7: Greater restrictions by the organization on the employee's computer use are associated with lower levels of personal Internet use during work.

Figure 1 presents our consolidated model of personal Internet use during work, based on the theories and prior research characterized above. From this perspective, routine Internet use and the positive attitudes about the technology that accompany such use – not antipathy toward the employer – play a primary role in shaping personal Internet use levels during work.

We hypothesize that personal use of the Internet at work will be associated positively with some explanatory factors and negatively with others.

Data, measures and methods:

Our analyses are based on data from a U.S. national random-digit-dial telephone survey conducted in the summer of 2006, a follow-up to a workplace technology survey conducted in 2004. Although the survey was not explicitly designed to test the model presented above, it includes measures of each of the relevant variables. While in some cases the measures only partially capture the underlying theoretical concepts, the dataset still provides a valuable and unique opportunity to examine the predictive power of the various factors for explaining personal Internet use at work using an empirically rich, current, and large sample of American computer-using employees. A discussion of the limitations of this dataset is included at the end of this article.

Given that work-related computer use was the general focus of the survey, only individuals who had worked for at least 30 hours in the previous work week and had used a computer for at least five of those work hours were allowed to participate in the survey. We employed this screening strategy in order to ensure adequate representation of the population of interest. The survey response rate was 41.4%, yielding a sample of 1,200 respondents. [3] Given the analytic focus of this study, we created a subsample consisting of the 1,024 respondents who worked for an employer (i.e., excluding those who were self-employed).

While only 5 hours of work-related computer use per week was the minimum for selection, most survey respondents use computers much more extensively in their work, reporting an average of 23.3 hours of computer use at work per week (S.D. = 15.8).

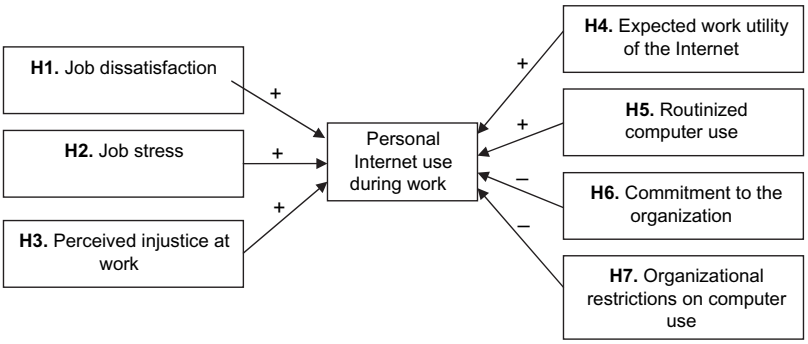

Figure 1 Modeling personal use of the Internet during work.

Respondents are between 18 and 73 years old, with a mean age of 43.9 years (SD = 11.5). A slight majority of the respondents is female (53%). A broad range of occupations in the private and public sectors is represented among the respondents, with the largest groups being in professional, managerial, administrative and sales positions. Almost four in five respondents are Caucasian (79.2%), while 8.2% are African American and 5.1% are Hispanic. Respondents have high levels of educational attainment – three-fifths had completed a college degree (35.7% undergraduate and an additional 24.3% held a graduate degree as well), and they are wealthier than most Americans, with almost half the sample reporting household incomes of more than $75,000 (47.0%), and a modal response of more than $100,000.

Personal Internet use during work: Our dependent variable is derived from the responses to two questions about the employee's level of computer use for nonwork purposes during work. Based on a 5-point scale anchored by "never" (1) and "several times a day" (5), respondents indicated how often they use a computer during work "for personal email and text messaging" (M = 2.8, SD = 1.4) and "to look up information of personal interest, such as news, sports scores, or stock reports" (M = 2.7, SD = 1.4). We then combined the two types of nonwork-related personal use to form a summative index of personal Internet use during work, with scores ranging from 2 to 10 (Cronbach = .71).[4] The distribution of scores on our dependent variable reveals that a very large majority of employees (82.0%) use computers for nonwork-related activities at least some of the time. It is notable that there is substantial variation in terms of the frequency of such use (M = 5.5, SD = 2.5). Conversely, nearly one in five (18.0%) reports that ICTs are never used during work for personal communications or to look at Internet sites of personal interest. While the total absence of personal use is, in fact, the modal category, the overall distribution reflects that personal use of ICTs during work has penetrated the behavior of most computer-using employees.

Independent variables

Job stress: Job stress is a summative index composed of three Likert items (Cronbach = .75): "I never seem to have enough time to get my job done" (M = 3.2, SD = 1.4), "There is too much stress in my job" (M = 3.1, SD = 1.3), and "My job demands too much of me" (M = 2.8, SD = 1.4). The distribution of the index indicates moderate levels of workplace stress in our sample (M = 9.0, SD = 3.4), with the number employees who agree that the workplace is stressful about equal to the number who disagree.

Job satisfaction: Our measures of satisfaction suggest that employees in the sample are largely satisfied with their employment. The summative index, which is based on three items (Cronbach = .82), had a modal response of 15, with nearly two in five (39%) strongly agreeing with all three items (M = 12.7, SD = 2.8). There were two Likert scales, based on items developed and tested by Quinn and colleagues (Quinn, Mangione, & Seashore, 1975; Quinn & Staines, 1978): "All in all, I am very satisfied with my current job" (M = 4.1, SD = 1.1) and "If I had to decide all over again

whether to take my job, I would" (M = 4.2, SD = 1.2). These items were supplemented with a third measure of overall job satisfaction: "Thinking about your job on the whole are you very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied." Broad, inclusive measures such as these have been shown to capture attitudes missed by facet-based summative satisfaction measures (Scarpello & Campbell, 1983). Responses to the last item were coded on a 5-point scale, with respondents who volunteered that they were neither satisfied nor dissatisfied coded as 3 (M = 4.4, SD = 1.0).

Perceived interactional injustice: The extant data provide a limited opportunity to examine the role of perceived injustice in the workplace. Scholars have described several forms of injustice, including interactional injustice, which refers to the quality of interpersonal relations between employees and management (Beugré, 2006; Lim & Teo, 2006). The survey includes only one item tapping this aspect of workplace injustice: "Supervisors often let me know how well they think I am performing my job." Responses are recoded so that higher scores correspond to higher levels of disagreement, that is, to a greater sense of injustice (M = 2.5, SD = 1.3). Most respondents feel that the workplace is fair, in terms of work-related communication from their superiors, with only one in five (21.7%) actively disagreeing. Strong agreement was the modal response (30.2%). Although a multi-item measure would be preferable, this single-item measure allows us to make a preliminary assessment of the influence of one form of interactional injustice. And this item is similar to one used by Lim and Teo (2006) to tap the same concept: "My supervisor provides me with timely feedback about decisions and their implications".

Commitment: Agreement with the statement, "I feel very loyal to my organization" is the measure of commitment to the workplace (M = 4.3, SD = 1.0). This item is taken from the 15-item Porter et al. organizational commitment scale (Porter, Steers, Mowday, & Boulian, 1974). The level of commitment evident in the sample is noteworthy. Four in five (81.5%) agreed with the statement, with more than half (56%) agreeing strongly.

Expected work utility of the Internet: Perceptions of the Internet's usefulness to the employee's work are measured with a Likert item: "My use of computers and the Internet allows me to be more innovative in my work" (M = 3.8, SD = 1.3). Two-thirds (65.9%) of respondents agreed with this statement and the modal response (38.1%) was strongly agree.

Routinized use of computers: Routinized computer use is measured in terms of the number of hours the computer was used for work. To obtain this information, respondents were first asked how many hours they worked in the past week, and then to indicate how much of that time was spent using a computer for work. As noted above, the results indicate that respondents used computers upwards of 20 hours each week (M = 23.3, SD = 15.8).

Restrictions on computer use: Two measures of restrictions on computer use by the employer were combined to form an index. Respondents were asked about their agreement with two statements: "My organization has restrictive policies about the

ways in which I can use the Internet," and "My organization has restrictive policies about the software I can install on my computer." [5] Responses were again based on five response categories, anchored by "strongly disagree" (1) and "strongly agree" (5). These responses were then summed to create a scale that ranged from 2 to 10 (Cronbach alpha = .73, M = 7.6, SD = 2.6). In general, it appears that organizations are restricting computer use in these ways, given that fully two-thirds of respondents agree with both of these statements. Moreover, one in three (34.5%) strongly agreed with both statements regarding organizational restrictions on computer use (receiving a score of 10).

Additional Controls

In order to test the model in Figure 1 more fully, we also include several control variables in our analysis that also might influence the level of personal Internet use during work. These variables reflect aspects of the individual employee's personal characteristics and job. Specifically, we initially introduce the respondent's age, education, gender, occupation and income level in the regression. Measurement of the last two merits brief explication.

Occupational status: Respondents were asked to provide their occupation. These responses were recorded verbatim and then coded into to the U.S. Census Bureau's Standard Occupational Categories. For this analysis, we created an occupational status dummy variable. Respondents were coded as having high-status occupations if they worked in management, business and financial occupations (27.5%) or in professional occupations (39.6%). Other occupations, including sales (7.8%), office and administrative support (13.4%), and service and production occupations (9.6%) form the reference category.

Household income: This measure is used as a proxy for individual income. Respondents indicated whether their total household income was less than $25,000 (2.6%), between $25,000 and $50,000 (18.9%), between $50,000 and $75,000 (24.3%), between $75,000 and $100,000 (20.0%), or more than $100,000 (27.7%). Although this measure is less direct than a measure of individual salary, it offers a fairly low rate of refusal (6.5%) without introducing systematic bias in the analyses reported here.

Results

Our analytic objective is to assess the explanatory power of two sets of factors that potentially account for the variation in personal Internet use during work. First, we examine whether the disaffection factors associated with negative workplace affect influence the extent of such use. Second, we evaluate an expected-outcomes-oriented approach to explain this variation. To this end, we use hierarchical multiple regression to evaluate the contribution that each block of variables makes to the overall explanatory power of the model. We examine the contribution of the control variables in the first stage, we add the disaffection measures in the second stage, and we include the expected outcomes in the final stage. After adding each block of variables

we examine the overall improvement in explanatory power of the model and we consider the contributions of the individual factors. The results are presented in Table 1.

When conducting these analyses, we also considered a variety of methodological issues. Correlation analysis (see Appendix 1) reveals modest collinearity among some independent variables, but VIF tests indicate that this is not a threat to the validity of the regression. Also, in order to confirm that the model is not unduly influenced by the list-wise exclusion of nonresponses we ran the regression a second time after replacing individual missing values with sample means. These results are comparable to those reported in Table 1.[6]

In the first stage of the regression analysis, we find that the control variables are an important part of the overall model. By themselves, the control variables explain 10% of the between-employee variance in the extent of personal Internet use at work, and four of the five variables are highly significant. The largest effect among these explanatory variables is associated with occupational status. Higher-status employees are significantly more likely to use the Internet for personal purposes than those in lower-status occupations. Greater income is also associated with increasing levels of personal use. Individual characteristics are important, too. Nonwork-related web browsing and personal e-mailing are more prevalent among younger workers than older workers, and males engage in these activities at higher levels than females. Education level is the only control variable among these personal characteristics that contributes no significant explanatory power to personal Internet use in the regression.

In the second stage of the regression, we introduce three variables reflecting employee disaffection. Although these factors are predicted to be influential in accounting for the level of personal use of the Internet during work according to the workplace disaffection model, adding these variables provides no significant contribution to the explanatory power of the model, and the R^2 is unchanged. The absence of a significant change in the explanatory power of the model is even more notable in light of the achieved power of the analysis. With a sample of this size, the probability of rejecting a false null hypothesis is 96% even if the effect size is small. [7] The large standard errors relative to the size of the coefficients further highlight the lack of predictive power associated with these factors, despite the large sample size.

In the final stage of analysis, we add the variables suggested by the expected-outcomes approach. The resulting regression (Stage 3) doubles the explanatory power of the (Stage 2) model that includes only the control variables and the workplace disaffection variables, explaining 20% of the variance. This is a highly significant improvement in explanatory power, and it provides evidence for the value of an approach that emphasizes the anticipated benefits associated with personal Internet use during work. [8] Thus the expected outcome factors play an important role in shaping the extent of personal Internet use, although, given the considerable amount of unexplained variance, they are far from being the only defining characteristics.

Table 1 Explanatory power of disaffection and gratification factors on the extent of personal Internet use during work, based on hierarchical multiple regression analyses

	Stage 1 Controls only		Stage 2 Disaffection		Stage 3 Expected outcomes	
	B (SE)	β	B (SE)	β	B (SE)	β
Controls						
Education	.12 (.08)	.06	.11 (.08)	.05	.11 (.08)	.05
Age	−.02 (.01)	−.11**	−.03 (.01)	−.12***	−.02 (.01)	−.07*
Gender (female)	−.47 (.17)	−.09**	−.46 (.17)	−.09**	−.41 (.16)	−.08*
Household income	.34 (.07)	.16***	.34 (.07)	.16***	.24 (.07)	.11**
Occupational status (high)	.89 (.20)	.16***	.90 (.20)	.17***	.73 (.19)	.13***
Workplace disaffection factors						
Job satisfaction	—		.03 (.03)	.03	.02 (.03)	.02
Job stress	—		−.01 (.03)	−.01	−.02 (.03)	−.02
Perceived organizational injustice	—		.10 (.07)	.05	.09 (.07)	.05
Expected outcome factors						
Expected work utility of Internet	—		—		.46 (.06)	.23***
Routinized computer use	—		—		.20 (.01)	.10**
Commitment to the organization	—		—		−.22 (.10)	−.09*
Restrictions on computer use	—		—		−.19 (.03)	−.19***
(Constant)	5.10 (.51) ***		5.30 (.67) ***		5.67 (.68) ***	
n	884		884		884	
R^2	.10		.10		.20	
Change in R^2	.10		.00		.10	
F_{change} (df1, df2)	19.21 (5, 878) ***		.77 (3, 875)		26.79 (4, 871) ***	

* $p < .05$, ** $p < .01$ *** $p < .001$.

Turning to the specific variables, we find that each of the four is significant and each operates in the direction hypothesized in Figure 1. The single most influential factor in the model is a more positive view of the utility of using the Internet for work. Holding all other variables constant, an employee who strongly agrees that the Internet is a source of personal work innovation scores about one-and-two-thirds points *higher* on the 10-point personal Internet use scale than an individual who strongly disagrees with this assessment. More habitual computer use at work is also positively related to a *higher* level of personal Internet use. As hypothesized, both organizational restrictions on computer and employee's lower commitment to the organization significantly reduce nonwork-related Internet activity. Indeed, the nature of the organization's restrictions on computer use is the second most powerful explanatory variable in the model, with a standardized coefficient almost as large as that of the employee's expectations of Internet utility. An employee in an organization with extremely restrictive computer use policies scores more than one-and-two-thirds points *lower* on the personal use scale than one whose work environment is completely unrestricted. And while the influence of an employee's organizational commitment is not as large, it is still substantial – those more committed to the organization are *less* frequently engaged in personal Internet use during work.

Discussion

In this article our objective is to evaluate the contribution made by two alternative approaches for explaining the incidence of personal Internet use during work, based on an analysis of empirical data from a large sample of computer-using employees. First, we considered workplace disaffection factors, which frame nonwork-related computing activity as a negative, possibly even hostile, response to the work environment. Although a workplace disaffection model may be appropriate when examining malicious computer abuse, such as data theft or large-scale computer-mediated harassment, it does not provide a compelling explanation for variance in the level of personal Internet use by employees. Workplace disaffection, as reflected in higher levels of job dissatisfaction, greater job stress, and a sense of being treated unfairly, might be associated with important aspects of an employee's behavior, but these conditions are not systematically related to higher levels of personal use of the Internet during work.

Second, we analyzed an alternative approach that emphasizes the anticipated outcomes employees associate with personal Internet use during work. In this model, an individual's decision to engage in personal online activities at work can be explained by the individual's assessment of the expected consequences of this behavior. The approach suggests that the decision to go online during work for nonwork purposes will be shaped by expectations that such behavior can successfully serve the individual's needs in comparison to resistance or negative consequences.

All four variables representing the expected outcomes approach in Table 1 are significantly associated with variation in personal use of the Internet during work.

Such personal use is greater among those employees with a general expectation that Internet use will be beneficial to their work and among those who are more habitual users of the technology at work. Moreover, personal use of the Internet during work is lower among those whose organizations place more restrictions on the use of work computing systems and among those who have higher commitment to their organization. Even after accounting for key demographic controls, the variables associated with the expected outcomes model actually double the overall explanatory power of the regression analysis.

Our results provide persuasive evidence that viewing personal Internet use during work as motivated by personal utility is more appropriate than interpreting it as a form of disaffection or displeasure with one's organization. Workplace disaffection factors, such as job stress and job dissatisfaction, which are assumed to lead to an aggressive response to a negative work environment and deviant behavior, had no significant explanatory power in our model. In contrast, all four factors related to increasing the expected outcomes of personal Internet use contributed significantly to the overall power of the model. Thus, we conclude that greater personal Internet use in the workplace is influenced by an expectation of personal benefit in the context of risk avoidance, and is not intended as an explicit affront to the employer. Employees are motivated to use the Internet for personal purposes at work for many of the same reasons that they use it elsewhere. It seems that surfing the web or sending a personal e-mail from work are similar to other everyday workplace behaviors, such as calling home or chatting with a coworker about life outside the office.

Disaffection and personal Internet use may, however, be linked in other ways. As Eastin and his colleagues have noted, the outcomes sought may in some cases include the *reduction of negative affect* (Eastin, Glynn, & Griffiths, 2006). "Self-reactive" incentives are psychological in nature, and include rewards such as self-satisfaction and the alleviation of boredom (Eastin, Glynn, & Griffiths, 2007). Thus, it may be that disaffection and expected outcomes motivators are interrelated. Nevertheless, our analysis suggests that disaffection by itself plays a relatively minor role in explaining personal Internet use during work for most employees.

There is also a potential causal linkage between nondeviant personal Internet use and the harms associated with excessive "cyberslacking," based on the observation that regular Internet use can become addictive and habitual (LaRose, Lin, & Eastin, 2003). On this view, some individuals who are initially drawn to relatively benign and limited forms of personal Internet use will become hooked on the Internet, failing to self-regulate their use of the medium. As a consequence, the behavior of these individuals will evolve such that it will significantly harm their workplace productivity.

Finally, although treated as controls in the models analyzed here, the influence of personal characteristics do merit brief further comment. It is significant that *personal Internet use during work is most prevalent among those in the highest status occupational groups and those whose household income levels are higher*. We suggest that those who feel more empowered in the workplace are most likely to have a stronger sense

of self-efficacy and autonomy. The lower, but still significant association of personal use of the Internet at work among males and younger workers might also be interpreted in this framework.

The analysis provided here as well as other recent analyses have clearly identified the types of computer-using employees who tend to be the most active and extensive users of possibly unproductive activities such as personal Internet use and instant messaging. In particular, the employees who engage in these activities most frequently tend to be in higher status occupations, better educated, and more technologically skilled, among other characteristics (Garrett & Danziger, 2008).

Thus it could be argued that an organization might have at least two reasons to be particularly tolerant of such "unproductive" behaviors among these workers. First, it might be that such activities will stimulate more innovative work-related uses of information and communications technologies. Indeed, one of our measures of the expected outcomes approach, which is significantly linked to more personal Internet use during work, is the employee's belief that computing has made him or her more innovative in work. This provides modest empirical evidence for the notion that the Internet can be an effective tool for enhancing productivity and creativity (Anandarajan & Simmers, 2004b; Bélanger & Slyke, 2002; Oravec, 2002). Secondly, these employees tend to be those that an organization is most likely to value and wants to retain. If some personal Internet use increases their job satisfaction (or at least, if allowing it does not make them more negative about their work environment), it might function to raise the likelihood of retaining valuable employees. Thus, while it is evident that such personal Internet use is probably nonproductive time, the organization might tolerate a certain level of such computer use from employees in order to open possibilities for innovation and to sustain these employees' long-term engagement with the organization and its work tasks.

Limitations of the current study

As mentioned earlier, the survey data used in these analyses were collected as part of a broader study of technology in the workplace and were not explicitly designed to test the models reported here. As a consequence, there are limitations associated with the operationalization of some concepts.

In this study, the measure of personal Internet use is constructed from only two items, despite the diverse practices that the concept aims to represent. However, more extensive sets of measures, such as the 11 items developed by Lim and colleagues, reveal that measures of personal Internet use typically load onto two dimension, nonwork web browsing and nonwork e-mail, with the behaviors within each group tending to hang together (Lim, 2002). While our dependent variable assesses these two domains of activity in combination, subsequent research would do well to use a more comprehensive set of measures, examining the prevalence of activities such as shopping, paying bills, using social networking sites, watching videos (from amateur webcam videos to professional broadcast network programming), gaming, viewing pornography, and so on (Mahatanankoon, Anandarajan, & Igbaria, 2004).

This is particularly important given the rapid diversification of personal tasks that can be conducted online that has recently occurred.

We also recognize the limitations of two other measures. The first is organizational justice. This is a sophisticated concept consisting of several dimensions (distributive justice, procedural justice, interactional justice), each of which is most effectively tapped using multiple items (for example, see Beugré, 2006; Lim & Teo, 2006; Stanton, 2002). It is possible that a more complete set of measures would yield different results than those reported here. Given the contradictory results between our findings and some of the existing literature, the use of multiple measures should be incorporated in future empirical studies. Secondly, work commitment, which is a significant predictor in our analysis, also can take numerous forms (e.g., affective commitment, continuance commitment, normative commitment) (Carmeli, 2005). Carmeli's assertion that the different forms of commitment contribute differently to personal Internet use certainly merits further research.

More generally, self-reported assessments also can be viewed as problematic, since such data can be unreliable (Nisbett & Wilson, 1977). For example, employees may have reasons for underreporting personal Internet use on the survey, including concerns about retribution and social norms. It is notable, however, that this survey was a national telephone interview conducted while the respondent was in his or her home, and anonymity of the verbal responses was explicitly promised. Furthermore, our results are highly significant despite the fact that one might reasonably expect underreporting of the frequency of personal use, reducing the magnitude of effects found. Future research might address the problems associated with self-reports through the use of time diaries or Internet usage logs.

Finally, our sampling strategy limits the generalizability of our results. By screening potential respondents based on their computer use at work, we effectively oversample individuals with certain characteristics. For example, upper income individuals and managers are overrepresented in our data, relative to the general population. However, we suggest that our focus is specifically on those organizational employees who do routinely use computing in their work, and thus this sample is a particularly interesting and relevant one for the analysis of our core interest. Hence we believe the models presented here to be theoretically sound and that our results are valid and significant.

Conclusions

Fully 80 percent of the computer-using workers in our study engage in personal Internet use during work. This includes both personal e-mails and text messaging and also utilizing the Internet for personal purposes, such as checking sports scores and online shopping. We have examined empirically different factors that might account for variation in the extent of such personal uses. Our results indicate that focusing on expected outcomes is a promising approach for examining personal Internet use at work, and it appears to be a more successful explanatory framework

than an approach based on workplace disaffection. *This suggests that we need to think of personal Internet use during work not as a hostile response to a negative work environment, but as a product of the attractive functionality provided by the capabilities of a rich electronic communication network in the workplace.* In this view, although employees who go online for personal reasons during work time are potentially hurting their employer through their reduced productivity, they are not behaving as hostile workers who are trying to "get back" at the organization. Moreover, it is possible for the organization to limit such personal use by implementing policies that proscribe this behavior. However, we have suggested that there might be reasons that the employer might allow a certain level of such personal Internet use during work. The practice seems part of a broad pattern of highly routinized use of information technology in completing tasks and it is most frequent among highly valued employees and among those who are most positively oriented to their work environment.

This analysis offers several directions for future research. Additional work is needed in order to understand more fully what the expected outcomes model means for personal Internet use during work. Indeed, given our findings that the highest status workers are most active personal Internet users, it seems worth analyzing further whether keeping such valued employees satisfied and loyal to the organization by *not* enforcing overly restrictive preventative measures on personal Internet use might actually benefit the organization overall.

The absence of support for the workplace disaffection model also merits further scrutiny. We think it is likely that some types of online activities *are* an employee's hostile response to perceived workplace grievances. More research is needed in order to specify which types of activities fall in this category and the circumstances under which these forms of abuse occur. It is clear that better understanding of the motivations of malicious and destructive computing-related behaviors by employees and the means to reduce them are of substantial importance to organizations. The answers to these sets of questions are theoretically intriguing and also of great practical importance to employers, given the deep penetration of computing into work routines and the significant costs (and potential benefits) associated with nonwork-related computing activities which affect employees and their work.

Notes

1 Anandarajan and Simmers (2004a) is a notable exception to the disaffection-only approach. These authors argue that we should explicitly distinguish between cyberslacking and personal Internet use, reserving the former term for excessive (and therefore dysfunctional) personal online activity in the workplace. This is a distinction that our analyses support, and so we limit our use of the term "cyberslacking" to dysfunctional activity.

2 Aside from race/ethnicity, respondent characteristics were generally comparable to U.S. Internet users.

3 Based on AAPOR Response Rate 1, the minimum response rate. This rate is computed by dividing the number of completed interviews by the total number of calls placed to eligible respondents or to respondents whose eligibility could not be determined, e.g., phone lines that were always busy. The RDD technique relies on a sample of randomly generated telephone numbers to contact respondents. As a result, many of the numbers do not correspond to an eligible individual. Ineligible numbers include those that connect to fax machines or businesses and those that are temporarily out of service. These calls are omitted from the response rate calculation (American Association for Public Opinion Research, 2006).

4 We drop cases with missing values when computing summative scales throughout. For this variable there were 1,020 listwise-valid cases.

5 The ability to install software indirectly influences an employee's ability to engage in personal Internet use. For example, use of instant messaging is often dependent on the installation of a dedicated client.

6 Recognizing that relationships are likely among some of the explanatory variables identified in these models, we examined the correlations among these items (see Appendix 1). The strongest relationships observed are between commitment and job satisfaction ($r = .52$, $p < .01$) and between educational attainment and employee status ($r = .49$, $p < .01$). Several other factors are also significantly correlated, although these associations were not as strong (e.g., income and education, organizational justice and satisfaction). Correlations among predictors pose a potential threat to the validity of regression results because they could produce high levels of multicollinearity. Collinearity diagnostics for the predictors, however, show that multicollinearity was not a problem. The Variance Inflation Factor (VIF) never exceeds 1.4 (the highest value was associated with educational attainment), meaning that no more than 30% of the variance in one predictor is explained by the other predictors in the model. Thus, multicollinearity is not a reason for non-significant coefficients in either model.
A second potential threat to the validity of the regression results is the drop in the sample size that accompanies the list-wise deletion of missing cases. Of the more than 1000 respondents, slightly fewer than 900 answered all the questions used in the third stage of the model. Although results based on list-wise deletion are shown in Table 1, we also employed a second approach in order to test the robustness of the model. Replacing missing values with sample means and rerunning the regressions yielded comparable results. Although the N was larger, the significance of the factors was unchanged and the direction and magnitude of the coefficients were the same.

7 Computed using G*Power 3's posthoc analysis of the F test for R^2 increase (Faul & Erdfelder, 2007).

8 Omitting the disaffection factors entirely yields no qualitative differences in the regression results. The overall explanatory power is comparable, as are the coefficients on each of the variables of interest.

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Appendix A: Correlation matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Personal Internet Use	1	.174**	−.087**	−.131**	.196**	.219**	.030	−.010	.046	.245**	.137**	−.083**	−.228**
2. Education		1	.056	−.099**	.306**	.488**	.067*	.085**	.077*	.119**	−.001	−.065*	.014
3. Age			1	.019	.133**	.026	.043	.073*	.123**	−.025	−.132**	.054	.078*
4. Gender				1	−.215**	−.005	.014	.076*	−.062*	.020	.018	.105**	.082**
5. Household income					1	.174**	.113**	.054	.047	.113**	.072*	−.031	−.045
6. Occupational status						1	.063*	.095**	.022	.152**	.000	.021	−.033
7. Job satisfaction							1	−.286**	−.334**	.185**	.013	.516**	−.034
8. Job stress								1	.165**	.082**	.049	−.089**	.082**
9. Perceived organizational injustice									1	−.129**	−.046	−.293**	−.065*
10. Expected work utility of Internet										1	.132**	.213**	−.012
11. Routinized computer use											1	.008	−.049
12. Commitment to the organization											1	.044	
13. Restrictions on computer use													1

* $p < .05$, ** $p < .01$ *** $p < .001$ (Cell entries are Pearson correlations; n between 947 and 1,024).