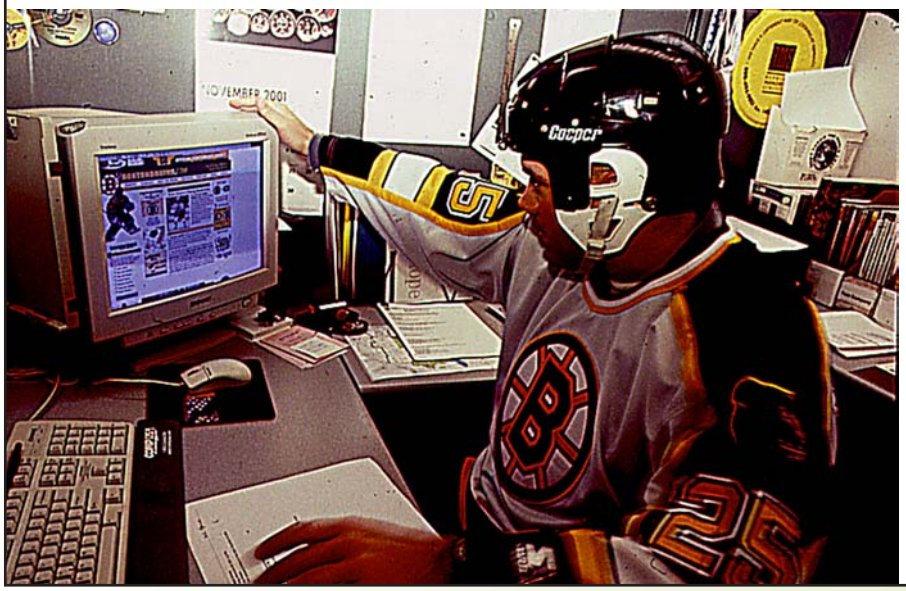
Web addict or happy employee?

COMPANY PROFILE OF THE FREQUENT INTERNET USER

Press coverage of workplace Internet usage has tended to emphasize negative aspects of workplace Internet access. Reports suggest many companies have lost productivity because of increased idle time on the part of employees using the Internet for nonwork purposes [5]. A picture has emerged from popular accounts and psychological research literature of individuals—sometimes portrayed as primarily young and male—who are



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compelled to play games, gamble, and engage in other counterproductive behaviors, all of which are facilitated by having desktop Internet access. Psychologists have even suggested including new material in the *Diagnostic and Statistical Manual* to code "Internet addiction" similarly to substance abuse and dependence or gambling addiction [11]. Thus, some have inferred that desktop Internet access in the workplace transforms some employees—particularly those with a predilection toward addictive behavior—into Internet junkies. The popular portrait emerging of the typical Internet addict is a twenty-something "nerdy" male, introverted, socially reclusive, perhaps dissatisfied with or disengaged from normal productive work activities, who spends a lot of time sending email, Web surfing, playing games, chatting, and so forth. [10]. In this article, this description's accuracy was assessed using survey data collected from 400 employed professionals.

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Profiling the Internet Addict: Server Logs and Psychological Cases

The popular portrait of the workplace Internet abuser has emerged from a conflation of two different sources of information. First, information technology personnel who have access to server logs have often noted heavy network activity that occurs when a group of employees obtains Internet access [9]. Software vendors have responded to a perceived need to monitor and control this behavior by creating products designed to log and, in some cases, prevent access to sites that organizations might consider counterproductive. As a marketing tool, one prominent vendor has commissioned a series of studies about these types of Internet abuse. The vendor's interpretation of this data, recounted in the popular press, suggests the majority of companies with employee Internet access contain employees whose browsing causes hits on pornographic-related sites. Although data shows the prevalence of Internet usage, it sheds little light on the users.

The psychological and psychiatric research literature provides another source of information contributing to the portrait of the Internet-addicted employee. Dozens of case studies and a handful of survey studies have explored causes, symptoms, and effects of Internet addiction in the course of exploring therapeutic options for relieving its effects [2]. A review of these studies reveals some people have indeed suffered difficult, unpleasant consequences from their compulsion to use the Internet: disruption of personal relationships, job loss, financial problems, and associated mental illness such as depression. But what percentage of the population is thus affected and how common is this intense and significant form of Internet addiction? One survey study sampled Web users and found that 8.1% of respondents reported themselves to be Internet addicts [6]. In considering this percentage, however, one must account for the study's procedures, which, by recruiting participants from classes requiring Internet usage, virtually guaranteed a sample of frequent Internet users. The occurrence of true Internet addiction in the general population of employed adults is likely to be lower.

Nonetheless, by combining evidence from network activity logs with the popularized portrait of the pathological Internet addict, some have concluded that the work force of any sizeable organization must be rife with troubled individuals who have difficulty controlling their Web compulsions. As correlates of their extreme levels of Internet usage, these workers may feel uncommitted to their organizations, alienated from coworkers and supervisors, dissatisfied with their jobs, and thus perhaps unable to make productive contributions to their organizations. Too many such individuals in an organization would inevitably diminish organizational effectiveness. Conversely, if typical frequent Internet users afforded none of these characteristics, one might have to look elsewhere for explanations of unusual network activity and reassess the conclusion that nonbusiness use of the Internet at work automatically disrupts the social fabric of the organization and devalues the bottom line.

To shed light on this situation, the present research compared a group of employees who were frequent Internet users with a comparison group who used the

Figure 1. Frequent Internet users vs. comparison group on job attitude variables.

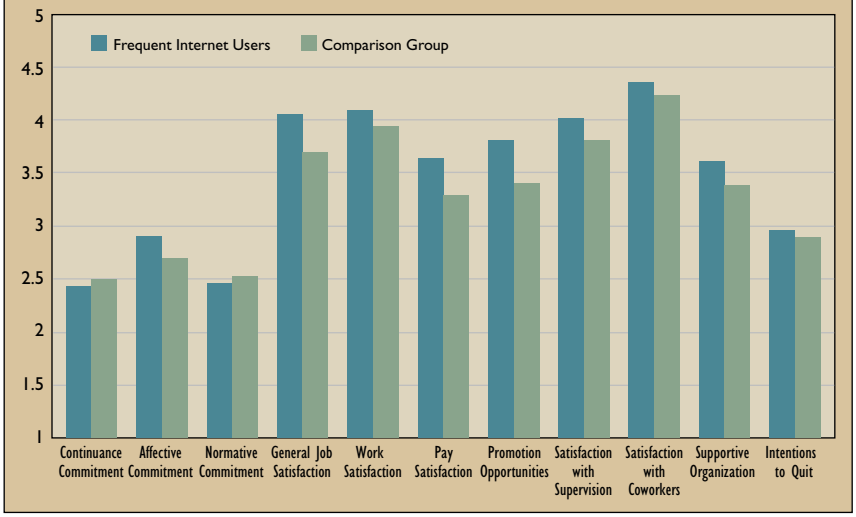
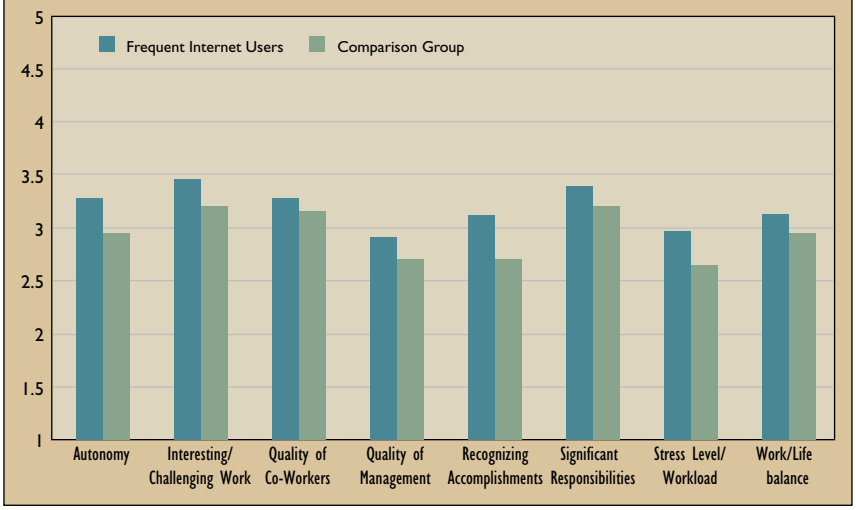


Figure 2. Frequent Internet users vs. comparison group on organizational issues.



Internet less frequently or not at all. By assessing differences between these groups, one might discern the veracity of the popular profile of the frequent Internet user.

Verifying the Portrait: A Survey of Internet Usage and Job Attitudes

At a national conference of a professional engineering society, attendees were offered a small incentive in exchange for participation in a survey. The survey was supported by the society and contained many inquiries of which Internet usage was a subset. A total of 498 individuals participated, but approximately 100 were asked not to complete the questions of interest in this article because of their employment status (they were not engineers). Of the remaining 400, about half were female, average age was approximately 31, and all but 20 reported their background as African-American, Hispanic, or Native American (consistent with membership goals of the society). Respondents reported responsibilities including consulting, design, education, management, quality assurance, and research. Respondents worked in the public sector, private industry, higher education, and the military.

The survey contained 11 inquiries about frequency of Internet usage, including, "Using a Web browser to examine entertainment and/or sports sites." Questions about usage also included a variety of Internet applications such as chat, email, and gaming, with responses ranging from "never" to "several times a day." For this study, a frequent Internet user was defined as an individual who responded to five or more of these inquiries at the highest frequency level. By this criterion, approximately 14% of the sample reported frequent Internet usage. In addition to Internet usage inquiries, the survey contained validated measures of standard job attitudes, including organizational commitment (three different scales), job satisfaction (six different scales), organizational support, and intentions to quit [1, 3]. Additionally, respondents rated their employers' status—"how well the organization is doing"—on eight issues ranging from recognition of employees' accomplishments to management quality.

For gender, age, and each of these measures, a statistical test indicated whether frequent Internet users differed from the comparison group. Regarding gender composition and average age, frequent Internet users did not differ at all from the comparison group. Figure 1 depicts differences between the groups on each of the organizational attitude variables. A higher value indicates more favorable attitudes (except for intent to quit) and all scales were transformed to a range of one (least favorable) to five (most favorable). For most variables, statistical tests indicated no differences between the two groups beyond variation due to

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chance. In cases where a difference did appear (job satisfaction [$t(390)=2.52$, $p<0.01$]; pay satisfaction [$t(396)=1.98$, $p<0.05$]; satisfaction with promotion opportunities [$t(393)=2.03$, $p<0.05$]; and ratings of organizational support [$t(395)=2.03$, $p<0.05$]) frequent Internet users were happier than the comparison group. Higher satisfaction among frequent Internet users appeared despite the absence of statistically significant differences in salary or job level between the groups.

Figure 2 depicts group means for each organizational issue variable. For all but one of the variables, statistical tests indicated no differences. For recognition of accomplishments ([$t(396)=2.13$, $p<0.05$]), frequent Internet users believed their companies were doing a better job on this than did members of the comparison group. Together, the figures suggest few meaningful differences between frequent Internet users and their counterparts who use the Internet less frequently. For those variables on which the groups did differ by a statistically significant amount, frequent Internet users expressed more positive attitudes about their organizations than the comparison group.

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Interpreting the Results

These results cast doubt on the popular profile of the workplace Internet addict. If workers who use the Internet frequently do not differ in gender, age, or a host of important job attitude variables from their colleagues who use the Internet less frequently, then it seems unlikely a strong link could be established between frequent Internet use in the workplace and the types of pathologies ascribed to Internet addicts. It is plausible that within every large company there is a small number of individuals for whom their compulsion to gamble or view pornography has led them to abuse their Internet access. But to generalize from these isolated cases to the whole work force, or even to those individuals who use the Internet more frequently than their colleagues, seems unwarranted in light of the data we've examined. Prior research on job attitudes has shown that while only weak links exist between attitudes such as job satisfaction and performance of job duties, stronger links exist between satisfaction and pro-social behaviors such as helping others and going beyond the call of duty [7]. In turn, researchers have also linked satisfaction and pro-social behavior to organizational effectiveness [8]. Thus, based on these findings, it would be reasonable to hypothesize that frequent Internet users contribute as much or more to their organizations as their colleagues who use the Internet less frequently.

Several theoretical perspectives on work motivation would support this hypothesis. For example, agency theory [4] can illuminate workplace Internet usage by suggesting that employees work productively under either of two circumstances. First, where close managerial monitoring of work behavior is difficult (such as for professional positions with high autonomy and many discretionary activi-

ties), employees will work in concert with organizational goals to the extent their own personal goals match those of the organization. Traditionally, promoting a match in goals has been accomplished through performance-based pay, but other strategies for aligning organizational and personal values may work as well or better (for example, skillful leadership and participative management). Alternatively, in situations where close monitoring of work behavior is easy or economical, managers can directly influence work behavior, and alignment of organizational and personal goals is unnecessary to promote productivity. Routinized work for hourly wages fits this situation most closely, although close monitoring is often feasible in other types of jobs as well (for example, soldiers).

Conclusion

Desktop Internet access has become ubiquitous for professionals and will likely become increasingly common for many other job types. Workplace Internet use is also easy to monitor, particularly for individuals who have a computer dedicated for their own use. As described in this article, products exist for monitoring Internet use. From an agency theory perspective, such monitoring may be warranted for workers with no strong stake in the organization (temporary workers). In contrast, such monitoring is likely to be irrelevant and possibly counterproductive for workers who identify closely with the organization's values and whose professional goals are aligned with organizational missions. For workers such as the professionals surveyed, frequent Internet usage may possibly mark higher productivity than among those who use the Internet infrequently or not at all. When server logs reveal hits have occurred on nonbusiness-related sites, it is possible that professional workers are treating the Internet as a perquisite, much the same as making personal calls, running errands at lunchtime, and chatting at the watercooler have always been perquisites of jobs with high autonomy. Organizations that provide benefits such as high-speed desktop Internet access and do not forbid occasional nonbusiness use may promote higher job satisfaction by doing so. Survey data from the present study appears to support this possibility. More importantly, the data appears to undermine the picture of the frequent Internet user as a young male workplace addict with uncontrollable urges to surf the Web instead of interacting with colleagues and performing productive work. This data does not argue against having an Internet usage policy and enforcing it fairly, but instead suggests frequent Internet use does not equal a diagnosis of Internet addiction and that high frequency Internet users may often be happy and productive workers.

In closing, the methods used in this study (cross-sectional and self-report) cannot rule out alternative explanations for the findings. Although frequent Internet users reported higher levels of job satisfaction and organizational support, the study provides minimal evidence about the causal links among these variables. In particular, the antecedents of job satisfaction are notoriously complex [3], and it is thus likely links between Internet usage and job attitudes are indirect. Additionally, these professional engineers may differ in their behavior and attitudes from other groups of workers. Keeping these warnings in mind, the absence of any findings indicating frequent Internet users have less favorable job attitudes appears to contradict the profile of the Web addict as a dissatisfied or alienated employee. C

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