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The Role of the Work Station: Visibility of One's Computer Screen to Coworkers Influences Cyberloafing Through Self-Efficacy to Hide Cyberloafing

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The use of the Internet at work for reasons unrelated to work, or cyberloafing, is a potentially harmful behavior for organizations. Past studies have shown cyberloafing is driven in part by characteristics of the work environment (Askew, Vandello, & Coovert, 2012). However, there remains little research on how the work environment influences cyberloafing. Here, we tested hypotheses that work station properties (and electronic monitoring) would influence cyberloafing through self-efficacy to hide cyberloafing among a sample of working adults ($N = 202$). We found evidence that visibility of one's computer screen influences cyberloafing through increased levels of one's self-efficacy to hide cyberloafing. In addition to the main study, we conducted a cross-validation study with a sample of Amazon's Mechanical Turk workers. Using multiple data control techniques, we were able to replicate the original results, providing evidence that the effect is robust and not specific to our original sample. The investigation contributes to practice and theory in two important ways. First, this investigation identifies a novel intervention point for decreasing personal computer use at work, that is, the structuring or restructuring of the immediate work station to deter cyberloafing. Second, the results suggest an expansion to one of the major theories of cyberloafing (i.e., theory of planned behavior model of cyberloafing) to include visibility of one's computer screen as a distal antecedent, proximal to self-efficacy to hide.

Keywords: cyberloafing, computer screen, work environment, work station, self-efficacy to hide cyberloafing

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Although the Internet has had a profound effect on global productivity and permeates almost every aspect of modern office work, it also provides opportunities for employees to engage in unproductive or even counterproductive work behaviors (Lim, 2002). Counterproductive behaviors, “cyber” or otherwise, are voluntary acts by employees that cause harm or have the potential to cause harm to an organization or its members (Spector & Fox, 2005). Examples of counterproductive work behaviors include insulting coworkers (i.e., abuse), stealing supplies from the company (i.e., theft), or feigning illness to stay home from work (i.e., production deviance; Spector et al., 2006). Cyberloafing is viewed by many researchers to be a type of withdrawal behavior (Askew et al., 2014; Holguin, 2016; Vardi & Weitz, 2016)—behavior that results in an employee working fewer hours while on the job than expected by the organization (Spector et al., 2006). As a common withdrawal behavior, cyberloafing has attracted its own set of dedicated researchers who are concerned that cyberloafing could cost companies money through various effects such as clogging bandwidth, reducing productivity, increasing security risks, and exposing companies to legal liabilities (Andresen, Torsheim, & Pallesen, 2014). Although the evidence is mixed regarding whether or not cyberloafing meaningfully decreases employee productivity (Bock & Ho, 2009; Duhita, 2015; Keklik, Kılıç, Yıldız, & Yıldız, 2015; Lim & Chen, 2012; Quoquab, Salam, & Halimah, 2015), which is arguably the most concerning issue for organizations, cyberloafing is the most common time-wasting activity in modern organizations and therefore is an important phenomenon to study (Malachowski, 2005; Wallace, 2004).

Although the influence of cyberloafing on productivity for the *average* employee is still an area of ongoing research (Duhita, 2015), there are at least two arguments for developing cyberloafing countermeasures at present rather than waiting for a definitive answer to the cyberloafing–productivity question. The first argument is one of preparation: It is possible that cyberloafing does have a generally negative effect on productivity and therefore millions or even billions of dollars could be lost in productivity each year as a result of cyberloafing (Block, 2001; Greengard, 2000). Waiting for a definitive answer is risky, given the time it takes to systematically develop and evaluate interventions and fully answer questions regarding generalization (Shadish, Cook, & Campbell, 2002). The second argument is that even if personal computer use at work is relatively benign for the average employee, managers still need methods to handle extreme cyberloafers, employees who spend a considerable amount of work time cyberloafing (Wallace, 2004). Although termination is a solution in many instances, in some cases termination is challenging or undesirable. For example, it is often difficult to terminate government employees, tenured employees, or employees with clout (Fichtner, Strader, & Scullen, 2013). Therefore, it is important for

researchers to continue to develop existing cyberloafing countermeasures and to explore the development of novel cyberloafing countermeasures.

A menagerie of cyberloafing countermeasures have already been developed and implemented in organizations and their effects on cyberloafing studied (Glassman, Prosch, & Shao, 2015; Venegas, 2006). These countermeasures include Internet filtering systems that block access to certain sites (Chou, Sinha, & Zhao, 2010), electronic monitoring systems that allow the organization to covertly record its employees' Internet use (Urbaczewski & Jessup, 2002), Internet use policies that clarify acceptable and nonacceptable use of computers at work (Siau, Nah, & Teng, 2002), managerial training programs to help communicate Internet use policies (Young & Case, 2004), and organizational sanctions of various levels of severity—from warnings to termination—to enforce Internet use policies (Fichtner et al., 2013). These methods have shown inconsistent results in terms of their effectiveness (Bock, Shin, Liu, & Sun, 2010; Henle & Blanchard, 2008; Henle, Kohut, & Booth, 2009; Jia, 2008; Mastrangelo, Everton, & Jolton, 2006; Zoghbi-Manrique-de-Lara, Tacoronte, & Ding, 2006). However, Ugrin and Pearson (2013) and Zoghbi-Manrique-de-Lara and Olivares-Mesa (2010) have resolved the broad discrepancies across studies by showing that pairing a reliable detection method, such as electronic monitoring, with *active* enforcement of Internet use policies is effective at reducing cyberloafing. A limitation of this combination approach, however, is that it could have negative effects on employee attitudes and perceptions of fairness, as two elements of the approach, electronic monitoring and organizational sanctions, are often viewed negatively by employees (Posey, Bennett, Roberts, & Lowry, 2011; Zoghbi-Manrique-de-Lara, 2011). Together, these studies not only indicated effective ways to reduce cyberloafing but also illustrated that it is difficult to curtail cyberloafing without negatively influencing employees' job attitudes or perceptions of fairness (Glassman et al., 2015).

We believe that a promising path for developing new approaches to curtail cyberloafing is to better understand the work environment. Both emergent and nonemergent qualities of the work environment have been shown to influence cyberloafing (Bortolani & Favretto, 2009; Sheikh, Atashgah, & Adibzadegan, 2015). A better understanding of the process by which physical qualities of the work environment influence behavior through psychological constructs could inform control efforts (Askew, Coovert, Vandello, Taing, & Bauer, 2011). For example, an understanding of the work station properties that influence a person's perception that he or she can cyberloaf and not get caught could inform how to set up work stations to naturally curtail cyberloafing. Although this is a relatively underused approach in organizations for reducing cyberloafing, at least compared with standard approaches such as organizational sanctions and electronic monitoring (Zoghbi-Manrique-de-Lara & Olivares-Mesa, 2010), there are analo-

gous approaches that are common in other domains. For example, Apple is creating a new “campus,” which is structured around common areas, to encourage collaboration among different work teams (Vanhemert, 2013), and Pixar structured its main office building in a similar manner to facilitate creativity (Bell, 2013). These examples illustrate that some successful companies already do manipulate the work environment; we believe a similar approach might also work for cyberloafing if informed by research. We also speculate that environmental approaches might also be perceived neutrally—or not perceived at all—if paired with an employee-friendly Internet usage policy.

The goal of this investigation is to follow-up on a previous research on the work *station*, the work environment that is most immediate to the employee and mostly likely to influence his or her behavior, to better understand the factors that influence an employee’s perceptions that he or she is able to get away with cyberloafing. There is surprisingly little research linking the work station and cyberloafing in the literature. In the next section, we review the limited research on the work station and related variables. In particular, we focus in-depth on a study by Askew et al. (2011),¹ as our current investigation is a direct follow-up to this study. After a review of the literature, we propose our hypotheses that we test using a sample of employees from diverse organizations and consequently diverse work environments. We close with a discussion of two important implications for practice or research that follow from this investigation.

Past Research on the Work Environment

Research has demonstrated that the work environment plays an important role in cyberloafing (Bortolani & Favretto, 2009; Sheikh et al., 2015). People who work with frequent cyberloafers are more likely to engage in non-work related computing than those who do not work with frequent cyberloafers (Liberman, Seidman, McKenna, & Buffardi, 2011); employees who are isolated from other employees tend to cyberloaf more than those who are not as isolated (Al-Khaldi & Wallace, 1999); employees who have their own work computers are more likely to cyberloaf than those who do not have their own work computers (Mastrangelo et al., 2006); electronically monitored employees are less likely to cyberloaf than those who are not monitored (Glassman et al., 2015; Rahimnia & Mazidi, 2015; Ugrin & Pearson, 2013; Wang, Tian, & Shen, 2013); and employees who do not work in proximity to a supervisor are more likely to cyberloaf than those who do work within

¹ Askew et al. (2011) is a poster presentation that describes two studies. In this article, the citation Askew et al. (2011) refers only to the first study, which was conducted at an airport.

proximity to a supervisor (Rahimnia & Mazidi, 2015). Collectively, these findings have suggested that aspects of the work environment that facilitate “getting away” with personal computer use increase cyberloafing. It is surprising then that few efforts have been made to understand how the *immediate* work environment, the work station, influences cyberloafing.

One investigation that did focus on the work station was an exploratory study by Askew et al. (2011). Askew and colleagues generated a list of items related to getting away with cyberloafing, administered the items to people waiting for their plane at a large international airport, and factor analyzed the resulting data. The researchers found that a five-factor solution fit the data well and yielded five clearly interpretable factors. The factors were as follows: (a) Self-Efficacy to Hide Cyberloafing,² indicating one’s overall perception of how well he or she can hide his or her computer activity from coworkers and supervisors; (b) Computer Screen Visibility, indicating the extent to which coworkers and supervisors are able to see one’s computer screen while working, that is, someone working at a cubicle with their screen facing the back of the cubicle would have a lower computer screen visibility than someone with a computer screen facing the cubicle opening; (c) Detectability of Others Approaching, indicating the extent to which one is able to hear and/or see others approaching his or her work station; that is, a person who has a clear line of sight from his or her work station to where coworkers or supervisors would approach from would be higher on this property than someone who is unable to see or hear approaching colleagues; (d) Electronic Monitoring, which is not a property of the work station but a related variable; this refers to whether or not one’s employing organization monitors his or her online activity; and (e) Assigned (vs. Shared) Computer, which suggests that employees who are assigned their own computers are expected to have more privacy than those who share a computer. Despite the evidence for the factor structure and the clear conceptual links to cyberloafing, only electronic monitoring was related to cyberloafing in the study (Askew et al., 2011). Recent research, however, has suggested that there might have been some factor(s) suppressing the hypothesized relationships in the airport sample and that these factors should be revisited (Askew et al., 2012; Sheikh et al., 2015). We discuss these studies and the reasons why the work environment factors should be revisited in the next section.

² Askew and colleagues (2011, p. 3) referred to this construct originally as “ability to hide cyberloafing” or “perceived ability to hide cyberloafing.” We adopt Rahimnia and Mazidi’s (2015, p. 673) label “self-efficacy to hide cyberloafing” for stylistic reasons.

Self-Efficacy to Hide Cyberloafing

Shortly after the study at the airport, [Askew et al. \(2012\)](#) conducted an unrelated cyberloafing study and included self-efficacy to hide as an exploratory variable. Self-efficacy was chosen as an exploratory variable given its hypothesized proximity to cyberloafing and the fact that it is hypothesized to subsume (i.e., mediate) the influences of the other environmental factors. The other environmental factors from the [Askew et al. \(2011\)](#) study were not included because of the previous null results. The study by [Askew et al. \(2012\)](#) sampled people from diverse organizations in the downtown area of a major U.S. city. In contrast to the airport study ([Askew et al., 2011](#)), self-efficacy to hide cyberloafing was significantly and strongly correlated with cyberloafing ([Askew et al., 2012](#)). This relationship has since been established in the cyberloafing literature by Askew and other teams of researchers ([Askew et al., 2014](#); [Sheikh et al., 2015](#)).

The difference in results between the 2011 airport study and later studies suggests that there is some unique feature of the airport sample that suppressed the relationship between self-efficacy to hide cyberloafing and cyberloafing. One possibility is that participants at the airport were in higher positions in their organization than the average employee. Theoretically, these higher status employees would have less need to hide their cyberloafing, as there are fewer people whom they need to hide their cyberloafing from ([Garrett & Danziger, 2008](#)). From this perspective, the null results may be an accurate reflection of the importance of factors related to hiding cyberloafing among a high-status population. Empirical results from other studies support this explanation: Status is shown to positively correlate with cyberloafing presumably because high-status employees do not need to hide their personal computer use ([Garrett & Danziger, 2008](#); [Vitak, Crouse, & LaRose, 2011](#)). Data from the 2011 airport study also support this interpretation: More than half the participants reported annual household incomes in excess of \$100,000 USD. Collectively, these observations and theory suggest that *status* could have suppressed the relationships between self-efficacy to hide cyberloafing and cyberloafing.

Regardless of the reason for the null results in [Askew et al.'s \(2011\)](#) airport study, the fact that self-efficacy to hide cyberloafing is a significant predictor of cyberloafing in subsequent studies suggests that researchers should reexamine the other four work environment factors, some of which have not been empirically tested since [Askew and colleagues' \(2011\)](#) original study. Whatever feature of the 2011 airport study sample that suppressed the results related to self-efficacy to hide might have also suppressed relationships between the other four environmental factors and cyberloafing. Although it is useful to understand that generally self-efficacy to hide cyber-

loading influences cyberloafing, it is potentially even more useful to understand which specific aspects of the immediate work environment, or work station, drive cyberloafing (Sheikh et al., 2015). Moreover, an important theoretical question remains with regard to whether the influence of these work station factors is mediated through self-efficacy to hide—now established as a robust, strong predictor of cyberloafing (Sheikh et al., 2015). In contrast to the other aspects of the work environment measured in Askew et al.'s (2011) original study, which either measure an immediate property of the work station (i.e., computer screen visibility, detectability of others approaching, and assigned work computer) or a general property of the work environment (i.e., the presence or absence of electronic monitoring), self-efficacy to hide cyberloafing measures a psychological construct that is presumably collectively influenced by aspects of the work station and surrounding environment (Askew et al., 2012). Self-efficacy is an overall assessment of how well one is able to hide his or her computer activity from coworkers and supervisors. Given this conceptualization, self-efficacy could be expected to mediate the influence that other aspects of the work environment have on employees' perceptions that they will get caught for cyberloafing (or avoid getting caught).

The Current Investigation

The goal of this study is to follow-up on the study conducted by Askew and colleagues (2011) by reexamining several aspects of the work station (and electronic monitoring). We use a sample that is more representative than the high-status sample surveyed by Askew et al. (2011) to ensure that more participants have motivation to hide their personal computer use at work. Given that we are following up on an exploratory study, with many null findings, we will avoid making the strong hypothesis that every work station factor influences cyberloafing. Rather, we hypothesize that (a) *one or more* of the work station factors (and electronic monitoring) will influence cyberloafing and (b) this/these effect(s) will be mediated through self-efficacy. The hypotheses are shown in visual form in Figure 1.

Main Study

Participants and Procedure

The study population comprised 202 employees from a wide variety of industries. The data collection procedure developed by Askew in previous

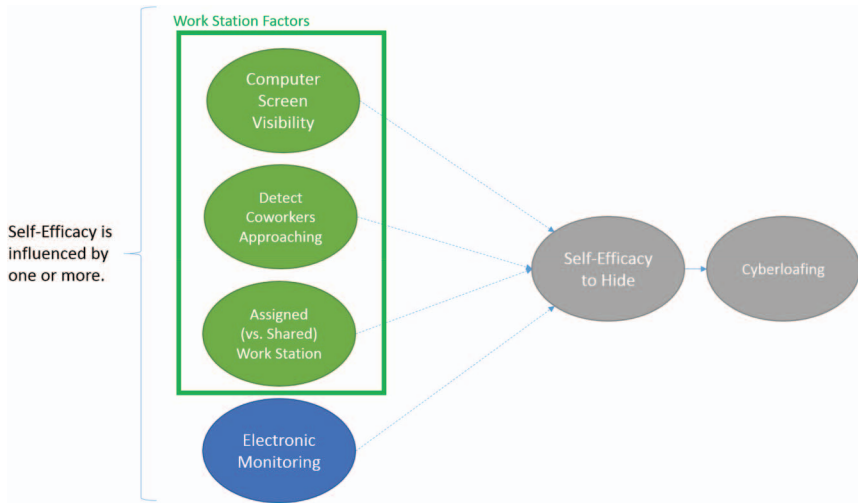


Figure 1. A visual representation of the hypotheses. See the online article for the color version of this figure.

studies was used here (Askew et al., 2011, 2012). Participants were solicited in a public park between noon and late day (i.e., after 5:00 p.m.) in the downtown area of Tampa, Florida. The first author or a trained research assistant approached people walking alone on the sidewalk and said, “Excuse me. I’m a student and I’m working on a study. Would you mind filling out a short survey?” Those who volunteered to participate were asked if they were currently employed in a position that involves working with computers with access to the Internet. People who answered affirmatively to this follow-up question were handed the survey. While participants were completing the questionnaire, the researchers waited a moderate distance away, roughly 40 feet, from participants to create a sense of privacy and encourage honest responding. After participants completed the questionnaire, they were thanked for their participation and their surveys were collected. Approximately 20% of those approached agreed to participate in the study. The procedure was successful in recruiting participants from diverse industries such as business, government, education, food, medical, nonprofit, health care; presumably, diverse work environments were also sampled. Age was approximately normally distributed in the sample, and both sexes were about equally represented (54.7% male).

The data presented here were collected as part of a larger study on cyberloafing. A subset of the data were presented in Askew et al. (2014). The focus of this investigation is unique and has not been published elsewhere.

Measures

Cyberloafing. Cyberloafing was measured using six items from Lim's Cyberloafing scale (Lim, 2002). We used a shortened version of Lim's scale to make it easier to solicit participation from a large number of people. The items were chosen based on item content with the intent of measuring the most common cyberloafing behaviors. Items measured the following Internet behaviors: web browsing, e-mail use, social networking, watching videos, playing games, and online shopping. An example item is, "browse websites while at work without a specific purpose." Participants rated their behaviors on a 7-point scale, ranging from 1 (*never did this*) to 7 (*almost constantly*). Coefficient α in the current study was .76.

Work environment factors. Askew and colleagues' (2011) scales were used in this study. The scales measured computer screen visibility, detectability of others approaching, assigned (vs. shared) work computer, and electronic monitoring. Participants rated their agreement to each item on a 7-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scales are shown in Appendix.

Computer Screen Visibility was measured using three items. An example item is, "My computer screen is highly visible to other employees." The coefficient α for computer screen visibility was .82.

Detectability of Others Approaching was measured using two items. An example item is, "I can see people approaching my work station." The coefficient α for detectability of others approaching was .68.

Assigned (vs. Shared) Computer was measured using one item: "I have an assigned computer at work." Because assigned computer was measured using a single item, it is not possible to calculate a value for coefficient α .

Electronic Monitoring was measured using three items. An example item is, "My company monitors my computer activity." The coefficient α for electronic monitoring was .93.

Self-Efficacy to Hide Cyberloafing. Askew and colleagues' (2011) scale was used here and is also shown in Appendix. Self-Efficacy to Hide Cyberloafing was measured using three items, and participants rated their agreement to each item on a 7-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is, "I could hide what I do on my work computer from other employees." Coefficient α in the current study was .89.

Exploratory variables. The narrow subdimensions of counterproductive behavior—theft, production deviance, sabotage, and abuse—were measured with 12 items from Spector et al.'s (2006) Counterproductive Work Behavior Checklist and are also shown in Appendix. One example item from the Sabotage subscale is, "Purposely did your work incorrectly." Participants

rated the frequency of each behavior on a 5-point scale, ranging from 1 (*never*) to 5 (*every day*).

Analyses and Results

Descriptive statistics are shown in Table 1. Consistent with our hypothesis, Self-Efficacy to Hide Cyberloafing was related to cyberloafing, $r = .36$, $p < .05$. Out of the four environmental factors, Computer Screen Visibility was significantly related to self-efficacy, $r = -.14$, $p < .05$. The other three factors—Detecting Others, Assigned Computer, and Electronic Monitoring—did not significantly correlate with Self-Efficacy to Hide. Electronic Monitoring, however, did correlate with cyberloafing, $r = -.18$, $p < .05$.

We hypothesized that one or more properties of the work environment would influence cyberloafing through self-efficacy to hide cyberloafing. To test our hypothesis, we used an approach for testing mediation developed by Preacher and Hayes (2004). This approach was chosen for several reasons. Foremost, a popular, conventional approach to testing for mediation, namely, Baron and Kenny's (1986) approach, has been criticized by statisticians and methodologists (Hayes, 2009; MacKinnon & Fairchild, 2009). The criticism of Baron and Kenny's approach is not that the approach is completely incorrect, but rather that it is a round-about method for testing mediation (Preacher & Hayes, 2004). Baron and Kenny proposed that if an independent variable is related to the dependent variable, if the mediator is related to the independent and dependent variables, and if the relationship between the independent variable and the dependent variable is nonsignificant after accounting for the mediator, then the data are consistent with mediation. However, this approach can overlook certain mediated relationships that exist. For instance, this can occur in the case of *inconsistent mediation* (MacKinnon, Fairchild, & Fritz, 2007), in which the sign of the indirect relationship is *opposite* from that of the direct relationship (technically, when ab has the opposite sign from c').

Another reason for using the method developed by Preacher and Hayes (2004) is that it tests the mediation hypothesis directly. With the Preacher and Hayes's method, the indirect effect of the independent variable on the dependent variable via the mediator is estimated, and this indirect effect is statistically compared with zero. An indirect effect that is statistically different from zero is evidence for mediation. Thus, we used Preacher and Hayes's (2004) direct test to test for mediation between each of the four work environment factors, self-efficacy to hide cyberloafing, and cyberloafing.

Table 2 shows the results for the Preacher and Hayes's (2004) mediation analyses. Results were fully supportive of a mediation hypothesis involving

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Table 1
Descriptive Statistics and Correlations for Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Cyberloafing	2.17	0.99									
2. Self-efficacy to hide	3.45	1.88	.36**								
3. Computer screen visibility	3.91	1.70	-.08	-.14*							
4. Detect others approaching	5.13	1.47	.05	.02	-.07						
5. Assigned vs. shared	5.55	2.08	-.01	-.03	.05	.33**					
6. Electronic monitoring	4.99	1.90	-.18*	-.12	.31**	.05	.27**				
7. Theft	1.16	0.29	.17*	.11	-.21**	-.05	.01	-.17*			
8. Production deviance	1.14	0.33	.22**	.26**	.03	-.11	-.16*	-.05	.20**		
9. Sabotage	1.06	0.18	.24**	.23**	.02	-.03	-.07	-.07	.28**	.48**	
10. Abuse	1.51	0.62	.19**	.18*	-.05	-.01	-.05	-.05	.44**	.53**	.28**

Note. N = 200. Theft, production deviance, sabotage, and abuse were exploratory variables.

* p < .05. ** p < .01.

Table 2
Preacher and Hayes's (2004) Mediation Analyses

Independent variable	<i>B</i>	Boot <i>SE</i>	LL CI	UL CI
Computer screen visibility	-.03*	.018	-.07	-.01
Detect others approaching	.01	.023	-.04	.05
Assigned vs. shared	-.01	.014	-.04	.02
Electronic monitoring	-.02	.016	-.06	.01

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Boot *SE* = Bootstrap estimated standard error. In all four analyses, cyberloafing is the criterion and self-efficacy to hide is the proposed mediator.

* $p < .05$.

visibility, $b = -.03$, $SE = .018$, $p < .05$. The analyses for both detect others approaching and assigned computer showed the same pattern of results to each other. Analyses failed to find a significant indirect effect for either detect approaching others ($b_{\text{Detect}} = .01$, $SE = .023$, *ns*) or assigned computer ($b_{\text{Assigned}} = -.01$, $SE = .014$, *ns*). Thus, we found no evidence that being able to detect other people approaching one's work station or having one's own computer influences cyberloafing directly or indirectly, but we did find evidence that visibility increases cyberloafing through self-efficacy to hide.

Our final analysis concerned the influence of electronic monitoring on cyberloafing. As mentioned earlier, the relationship between electronic monitoring and cyberloafing was significant at the bivariate level, $r = -.18$, $p < .05$; however, there was no evidence that this effect was mediated through self-efficacy, $b = -.02$, $SE = .016$, *ns*.

Cross-Validation Study

To examine the generalizability of our findings, we conducted a cross-validation study using a different sampling approach. We collected data through Amazon's Mechanical Turk (MTurk), a crowd-sourcing Internet marketplace that provides access to members of the general population who are willing to fill out surveys or complete other tasks for a fee. The use of MTurk allowed us to collect data from participants in diverse work environments (and work stations). Past studies have shown MTurk is a viable source for collecting high-quality data for organizational behavior/human resources research (Behrend, Sharek, Meade, & Wiebe, 2011; Mahmoud, Castille, Williamson, Buckner, & De León, 2017; Sheehan & Pittman, 2016).

Procedure and Data Quality Controls

The sampling frame for our cross-validation study was employed U.S. adults on MTurk who make \$10,000 USD or more per year (outside of

MTurk), are embedded in an organization, and use a computer at work on a daily basis. To ensure that we sampled these people and to ensure the integrity of the data, a number of quality control steps were taken. First, we recruited participants using Turk Prime's panel option rather than relying on participants to honestly report their employment status. Turk Prime is an Internet-based platform that connects with MTurk and supports tasks that are common in the behavioral sciences. The panel option is a feature using which researchers can access particular groups of people for an additional per participant fee. We used this feature to ensure that only U.S. employed adults who make over \$10,000 USD a year participated in our study. Second, we limited participation in the study to MTurk workers who (a) have completed 100 or more MTurk human intelligence tasks (i.e., studies), (b) have received positive evaluations from requesters on 90–100% of their previous MTurk human intelligence tasks, and (c) have achieved the “master” status—a status indicative of doing quality work on MTurk. Third, we paid participants more than the minimum wage (\$1.50 USD for a 7-min survey) to entice enough workers to participate and to ensure a neutral reaction to participating in the study (Wearedynamo.org, 2017). Finally, we used three data screening methods to screen out participants not exerting sufficient effort. These techniques included the following: (a) infrequency items (participants were screened out if they endorsed too many low-frequency items, e.g., “My favorite subject is agronomy”; Maniaci & Rogge, 2014), (b) self-report (participants were asked if they took the survey seriously—they were instructed that they would receive credit regardless of their response; DeSimone, Harms, & DeSimone, 2015), and (c) response times (participants were screened out if they completed the survey in under 3 min; Desimone et al., 2015). This data collection approach was successful in recruiting employed adults from across the United States who took the survey seriously; the total number of participants was 50 after the identification and elimination of 22 inattentive responders.³

Measures

We used the same scales in the cross-validation study as were used in the main study with one exception: We used the full 18-item version of Lim's (2002) Cyberloafing scale (Henle & Blanchard, 2008) as opposed to a truncated version as used in the main study. This change was to ensure that the original findings were not an artifact of using a shortened Cyberloafing scale. The scales showed acceptable and similar reliabilities to the main study

³ Although a sample size of 50 would be insufficient for the Baron and Kenny's (1986) method of testing mediation, it can be sufficient when using the bias-corrected bootstrapping method used here (Fritz & MacKinnon, 2007).

with the exception of the Cyberloafing scale, which had higher reliability in the cross-validation study ($\alpha = .90$ vs. $.76$). The coefficient α s in the cross-validation study were as follows: self-efficacy = $.93$, visibility = $.93$, detect others = $.70$, and electronic monitoring = $.94$.

Results

Descriptive statistics and bivariate correlations are shown in Table 3. Mediation analyses are shown in Table 4. As shown in Table 4, the results mostly replicate the findings from the main study. There was again evidence that visibility of the computer screen influences cyberloafing through self-efficacy to hide cyberloafing, $b = -.21$, $SE = .09$, $p < .05$. Also, consistent with the main study, the mediation analyses found no evidence that being able to detect approaching others or having an assigned computer influences cyberloafing through self-efficacy to hide, as both indirect effects were nonsignificant ($b_{\text{Detect}} = .08$, $SE = .09$, ns ; $b_{\text{Assigned}} = .10$, $SE = .09$, ns). One difference between the two studies was the results of the electronic monitoring mediation analysis. The indirect effect of electronic monitoring on cyberloafing was significant, $b = -.10$, $SE = .07$, $p < .05$, suggesting that self-efficacy to hide might mediate this relationship in certain populations. In short, the main finding from Study 1—that visibility of one's computer screen influences cyberloafing through self-efficacy to hide—was replicated in our cross-validation study.

Discussion

The goal of the present investigation was to investigate the influence of properties of the work station on cyberloafing. Cyberloafing is ubiquitous in modern organizations (Malachowski, 2005), and unfortunately, managers

Table 3
Cross-Validation Study: Descriptive Statistics and Correlations for Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Cyberloafing	2.43	0.92					
2. Self-efficacy to hide	3.60	1.25	.39**				
3. Computer screen visibility	2.23	1.36	-.11	-.58**			
4. Detect others approaching	4.14	0.80	.08	.18	.05		
5. Assigned vs. shared	4.14	1.29	.18	.36*	-.01	.09	
6. Electronic monitoring	2.15	1.12	-.11	-.31*	.38*	-.20	.21

Note. $N = 50$.

* $p < .05$. ** $p < .01$.

Table 4
Cross-Validation Study: Preacher and Hayes's (2004) Mediation Analyses

Independent variable	<i>B</i>	Boot <i>SE</i>	LL CI	UL CI
Computer screen visibility	-.21*	.09	-.44	-.08
Detect others approaching	.08	.09	-.04	.32
Assigned vs. shared	.10	.09	-.01	.33
Electronic monitoring	-.10*	.07	-.28	-.01

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Boot *SE* = Bootstrap estimated standard error. In all four analyses, cyberloafing is the criterion and self-efficacy to hide is the proposed mediator.

* $p < .05$.

struggle to control cyberloafing without adversely affecting employee perceptions of fairness (Glassman et al., 2015; Zoghbi-Manrique-de-Lara, 2011). The work station is a promising invention point because it is controllable by the organization and could decrease cyberloafing through increased transparency while still allowing employees to take the occasionally digital break. In addition, we speculate that such an approach would be effective in maintaining a sense of fairness and decreasing cyberloafing when paired with a fair, perhaps liberal, Internet use policy. In our investigation, we sampled 202 employees from a diverse set of industries and work environments and found evidence that visibility of one's computer screen influences cyberloafing through the mediator self-efficacy to hide cyberloafing. We then replicated this finding using a cross-validation study. We discuss the implications of these findings for theory and practice in the next section.

Contributions

Our investigation makes two important contributions to either practice or theory. The first contribution is a new direction on which to focus cyberloafing countermeasure efforts. Previous research has shown self-efficacy to hide cyberloafing is a major driver of cyberloafing (Askew et al., 2012; Sheikh et al., 2015). This finding has lead researchers to suggest structuring the work station in a way that increases transparency (Askew et al., 2014), but which aspects of the work station should be targeted has been unclear. Our investigation pinpoints the major emergent property of the work station—computer screen visibility to others—to target, providing practitioners a specific intervention point that can be incorporated into their general cyberloafing control strategy. The implication for practice is straightforward: To decrease cyberloafing, work stations should be arranged such that computer screens face hallways, and not the back of cubicles, in a cubicle work station environment, whereas in open environments, work stations should be arranged such that foot traffic at least occasionally flows behind the employee. These transparency efforts, we convec-

ture, should be paired with fair, perhaps even somewhat liberal, Internet use policies to maintain perceptions of fairness. One caveat on the topic of perceived fairness we suspect is that work station restructuring is most likely to be perceived as fair, or not negatively received, if done preemptively (i.e., before an employee's first day at work) or tactfully (e.g., done when office furniture and equipment is being rearranged for noncyberloafing reasons).

The second contribution of this investigation is that it expands our understanding of the processes that contribute to cyberloafing and, when considered with extant theories, expands upon one of the major theories of cyberloafing (Ajzen, 1985; Askew et al., 2014). The theory of planned behavior perspective on cyberloafing states that cyberloafing is caused by intentions to cyberloaf, which are in turn caused by cyberloafing attitudes, social norms, and self-efficacy to hide cyberloafing (Askew et al., 2014). Although further research is needed, our findings suggest that this model should be expanded to include computer screen visibility to others as an even more distal cause of cyberloafing that directly precedes self-efficacy to hide.

Limitations and Future Directions

The current investigation has some limitations that should be acknowledged. First, the data were cross-sectional, limiting our ability to make strong causal inferences (Shadish et al., 2002). Rather than demonstrate that computer screen visibility caused cyberloafing through self-efficacy to hide cyberloafing, we found evidence that is consistent with this causal hypothesis. The case for causation is strengthened somewhat by the strong theoretical connections between the examined constructs, but nonetheless additional studies that use stronger designs are needed. Future studies should use an experimental design, either in a laboratory or an applied setting, in which visibility of the computer screen is systematically manipulated to investigate its influence on cyberloafing.

A second limitation is that work station properties were measured using self-report rather than direct observation, and so what we measured is most accurately labeled *perceptions* of the work station and electronic monitoring. This was a necessary design decision to practically sample people working in a diverse set of work environments, as it seemed infeasible to gather permission from >200 different companies to measure work environment factors directly as part of an exploratory study. The extent to which measuring perceptions is problematic depends on the extent to which people are able to accurately report properties of their work station. We believe people are able to report whether they share a work computer with other employees, whether their computer screen is visible to other employees, and whether they are able to detect people approaching, but this assumption should be tested in future studies.

Third, the focus in this study is on work station properties that apply generally across industries and companies and does not necessarily explain what work station properties are most efficacious in a particular organization. Although this is a strength with regard to offering practical advice that will apply across work contexts, it means that future research studies in a variety of specific contexts will be needed to provide a complete account of the processes leading to self-efficacy to hide judgments. Related to this, it is important to emphasize that we did not refute detecting approaching others and assigned computers as efficacious components in the cyberloafing process, as absence of evidence is not evidence of absence. These variables might have a weaker role in the cyberloafing process or could interact with moderators.

Summary and Conclusion

In this investigation, we probed how different properties of the work station could contribute to cyberloafing, an area that is greatly understudied. We followed up on previous studies and hypothesized that work station properties (and electronic monitoring) would influence cyberloafing through self-efficacy to hide cyberloafing. Consistent with this hypothesis, we found evidence across two studies that *visibility of one's computer screen to coworkers and supervisors* influences cyberloafing through increased levels of self-efficacy to hide.

The study presented here is noteworthy for two reasons. Perhaps most importantly, the study points to a novel intervention point for decreasing cyberloafing that could be paired with existing cyberloafing countermeasures in an overall cyberloafing control strategy. Although not a panacea and not likely to be effective in all situations, structuring the work environment is something that is controllable to the organization, is permanent in the sense that it does not require constant effort by managers, and increases transparency—providing the opportunity to pair with other countermeasures in a way that could reduce extreme cyberloafing while maintaining employee perceptions of fairness. A second contribution of this study is that it expands the theory of planned behavior model of cyberloafing to include visibility of one's computer screen as a proximal antecedent to self-efficacy to hide. The next steps for future research are to confirm and extend these findings using experimental methods in laboratory and organizational settings.

References

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl. (Ed.), *Action control* (pp. 11–39). Heidelberg, Germany: Springer Berlin Heidelberg. http://dx.doi.org/10.1007/978-3-642-69746-3_2

- Al-Khaldi, M. A., & Wallace, R. S. O. (1999). The influence of attitudes on personal computer utilization among knowledge workers: The case of Saudi Arabia. *Information and Management, 36*, 185–204. [http://dx.doi.org/10.1016/S0378-7206\(99\)00017-8](http://dx.doi.org/10.1016/S0378-7206(99)00017-8)
- Andreassen, C. S., Torsheim, T., & Pallesen, S. (2014). Predictors of use of social network sites at work—a specific type of cyberloafing. *Journal of Computer-Mediated Communication, 19*, 906–921. <http://dx.doi.org/10.1111/jcc4.12085>
- Askew, K., Buckner, J. E., Taing, M. U., Ilie, A., Bauer, J. A., & Coovert, M. D. (2014). Explaining cyberloafing: The role of the theory of planned behavior. *Computers in Human Behavior, 36*, 510–519. <http://dx.doi.org/10.1016/j.chb.2014.04.006>
- Askew, K., Coovert, M. D., Vandello, J. A., Taing, M. U., & Bauer, J. A. (2011). *Work environment factors predict cyberloafing*. Poster presented at the Annual Meeting of the American Psychological Society, Washington, DC.
- Askew, K., Vandello, J. A., & Coovert, M. D. (2012). *Cyberloafing and social norms: The role of subjective prescriptive and descriptive norms*. Unpublished manuscript.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182. <http://dx.doi.org/10.1037/0022-3514.51.6.1173>
- Behrend, T. S., Sharek, D. J., Meade, A. W., & Wiebe, E. N. (2011). The viability of crowdsourcing for survey research. *Behavior Research Methods, 43*, 800–813. <http://dx.doi.org/10.3758/s13428-011-0081-0>
- Bell, C. (2013, July 10). Monsters University: What's it like to work at Pixar? *The Telegraph*. Retrieved from <http://www.telegraph.co.uk/culture/film/10144531/Monsters-University-whats-it-like-to-work-at-Pixar.html>
- Block, W. (2001). Cyberslacking, business ethics and managerial economics. *Journal of Business Ethics, 33*, 225–231. <http://dx.doi.org/10.1023/A:1012002902693>
- Bock, G. W., & Ho, S. L. (2009). Non-work related computing (NWR). *Communications of the ACM, 52*, 124–128. <http://dx.doi.org/10.1145/1498765.1498799>
- Bock, G. W., Shin, Y., Liu, P., & Sun, H. (2010). The role of task characteristics and organizational culture in non-work-related computing: A fit perspective. *ACM SIGMIS Database, 41*, 132–151. <http://dx.doi.org/10.1145/1795377.1795385>
- Bortolani, E., & Favretto, G. (2009). Organizational aspects of cyberloafing. *Encyclopedia of information science and technology* (2nd ed., pp. 2923–2928). Hershey, PA: IGI Global.
- Chou, C. H., Sinha, A. P., & Zhao, H. (2010). Commercial Internet filters: Perils and opportunities. *Decision Support Systems, 48*, 521–530. <http://dx.doi.org/10.1016/j.dss.2009.11.002>
- DeSimone, J. A., Harms, P. D., & DeSimone, A. J. (2015). Best practice recommendations for data screening. *Journal of Organizational Behavior, 36*, 171–181. <http://dx.doi.org/10.1002/job.1962>
- Duhita, S. (2015). *Is loafing at work necessarily detrimental? A study of the relationship between loafing, productivity, and satisfaction* (Master's thesis). University of Wellington, Wellington, New Zealand. Retrieved from <http://hdl.handle.net/10063/4793>
- Fichtner, J. R., Strader, T. J., & Scullen, S. E. (2013). Creating, clarifying, and enforcing an effective non-work related computing policy: A legal perspective. *Journal of Information Policy, 3*, 389–410. <http://dx.doi.org/10.5325/jinfopoli.3.2013.0389>
- Fritz, M. S., & Mackinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*, 233–239. <http://dx.doi.org/10.1111/j.1467-9280.2007.01882.x>
- Garrett, R. K., & Danziger, J. N. (2008). On cyberslacking: Workplace status and personal internet use at work. *Cyberpsychology and Behavior, 11*, 287–292. <http://dx.doi.org/10.1089/cpb.2007.0146>
- Glassman, J., Prosch, M., & Shao, B. B. (2015). To monitor or not to monitor: Effectiveness of a cyberloafing countermeasure. *Information and Management, 52*, 170–182. <http://dx.doi.org/10.1016/j.im.2014.08.001>
- Greengard, S. (2000). The high cost of cyberslacking. *Workforce, 79*, 22–24.
- Hayes, M. H. (2009). *Statistical digital signal processing and modeling*. Hoboken, NJ: Wiley.
- Henle, C. A., & Blanchard, A. L. (2008). The interaction of work stressors and organizational sanctions on cyberloafing. *Journal of Managerial Issues, 20*, 383–400.

- Henle, C. A., Kohut, G., & Booth, R. (2009). Designing electronic use policies to enhance employee perceptions of fairness and to reduce cyberloafing: An empirical test of justice theory. *Computers in Human Behavior*, *25*, 902–910. <http://dx.doi.org/10.1016/j.chb.2009.03.005>
- Holguin, E. S. (2016). *Strategies functional managers use to control cyberloafing behaviors* (Doctoral dissertation). Walden University, Minneapolis, MN. Retrieved from <http://scholarworks.waldenu.edu/dissertations/2604/>
- Jia, H. H. (2008). *Relationships between the big five personality dimensions and cyberloafing behavior*. Carbondale, IL: Southern Illinois University at Carbondale.
- Keklik, B., Kılıç, R., Yıldız, H., & Yıldız, B. (2015). An investigation of the effect of cyberloafing behaviors on organizational learning capacity. *Business and Economics Research Journal*, *6*, 129–144.
- Liberman, B., Seidman, G., Mckenna, K. Y., & Buffardi, L. E. (2011). Employee job attitudes and organizational characteristics as predictors of cyberloafing. *Computers in Human Behavior*, *27*, 2192–2199. <http://dx.doi.org/10.1016/j.chb.2011.06.015>
- Lim, V. K. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing and organizational justice. *Journal of Organizational Behavior*, *23*, 675–694. <http://dx.doi.org/10.1002/job.161>
- Lim, V. K., & Chen, D. J. (2012). Cyberloafing at the workplace: Gain or drain on work? *Behaviour and Information Technology*, *31*, 343–353. <http://dx.doi.org/10.1080/01449290903353054>
- MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science*, *18*, 16–20. <http://dx.doi.org/10.1111/j.1467-8721.2009.01598.x>
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, *58*, 593–614. <http://dx.doi.org/10.1146/annurev.psych.58.110405.085542>
- Mahmoud, B. H., Castille, C. M., Williamson, R. L., Buckner, J. E. V., & De León, J. A. (2017). *Comparing MTurk and the U.S. populations' occupational diversity*. Poster presented at the Annual Meeting of the Society for Industrial and Organizational Psychology, Chicago, IL.
- Malachowski, D. (2005). Wasted time at work costing companies billions. *San Francisco Chronicle*, *11*. Retrieved from <http://apexassisting.com/wasted-time-at-work-costing-companies-billions/>
- Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality*, *48*, 61–83. <http://dx.doi.org/10.1016/j.jrp.2013.09.008>
- Mastrangelo, P. M., Everton, W., & Jolton, J. A. (2006). Personal use of work computers: Distraction versus destruction. *Cyberpsychology and Behavior*, *9*, 730–741. <http://dx.doi.org/10.1089/cpb.2006.9.730>
- Posey, C., Bennett, B., Roberts, T., & Lowry, P. B. (2011). When computer monitoring backfires: Invasion of privacy and organizational injustice as precursors to computer abuse. *Journal of Information System Security*, *7*, 24–47.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, *36*, 717–731. <http://dx.doi.org/10.3758/BF03206553>
- Quoquab, F., Salam, Z. A., & Halimah, S. (2015, August). Does cyberloafing boost employee productivity? *Technology management and emerging technologies (ISTMET), 2015 International symposium* (pp. 119–122). Langkawai Island, Malaysia: IEEE. Retrieved from <http://ieeexplore.ieee.org/document/7359013/>
- Rahimnia, F., & Mazidi, A. R. K. (2015). Functions of control mechanisms in mitigating workplace loafing; evidence from an Islamic society. *Computers in Human Behavior*, *48*, 671–681. <http://dx.doi.org/10.1016/j.chb.2015.02.035>
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton, Mifflin and Company.
- Sheehan, K. B., & Pittman, M. (2016). *Amazon's Mechanical Turk for academics: The HIT handbook for social science research*. Irvine, CA: Melvin & Leigh Publishers.

- Sheikh, A., Atashgah, M. S., & Adibzadegan, M. (2015). The antecedents of cyberloafing: A case study in an Iranian copper industry. *Computers in Human Behavior, 51*, 172–179. <http://dx.doi.org/10.1016/j.chb.2015.04.042>
- Siau, K., Nah, F. F. H., & Teng, L. (2002). Acceptable internet use policy. *Communications of the ACM, 45*, 75–79. <http://dx.doi.org/10.1145/502269.502302>
- Spector, P. E., & Fox, S. (2005). The stressor-emotion model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (pp. 151–174). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10893-007>
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior, 68*, 446–460. <http://dx.doi.org/10.1016/j.jvb.2005.10.005>
- Ugrin, J. C., & Pearson, J. M. (2013). The effects of sanctions and stigmas on cyberloafing. *Computers in Human Behavior, 29*, 812–820. <http://dx.doi.org/10.1016/j.chb.2012.11.005>
- Urbaczewski, A., & Jessup, L. M. (2002). Does electronic monitoring of employee internet usage work? *Communications of the ACM, 45*, 80–83. <http://dx.doi.org/10.1145/502269.502303>
- Vanhemert, K. (2013, November 11). *Look inside Apple's spaceship headquarters with 24 all-new renderings*. Retrieved from www.wired.com
- Vardi, Y., & Weitz, E. (2016). *Misbehavior in organizations: A dynamic approach*. New York, NY: Routledge.
- Venegas, J. M. (2006). *Effectiveness of an intervention to increase employees' awareness of frequency and seriousness of cyberloafing* (Master's thesis). Retrieved from <http://sowiport.gesis.org/search/id/csa-sa-201222781>
- Vitak, J., Crouse, J., & LaRose, R. (2011). Personal Internet use at work: Understanding cyberslacking. *Computers in Human Behavior, 27*, 1751–1759. <http://dx.doi.org/10.1016/j.chb.2011.03.002>
- Wallace, P. (2004). *The Internet in the workplace: How new technology is transforming work*. New York, NY: Cambridge University Press.
- Wang, J., Tian, J., & Shen, Z. (2013). The effects and moderators of cyber-loafing controls: An empirical study of Chinese public servants. *Information Technology and Management, 14*, 269–282. <http://dx.doi.org/10.1007/s10799-013-0164-y>
- Wearedynamo. (2017, September 30). *Guidelines for academic requesters*. Retrieved from http://wiki.wearedynamo.org/index.php/Guidelines_for_Academic_Requesters
- Young, K. S., & Case, C. J. (2004). Internet abuse in the workplace: New trends in risk management. *Cyberpsychology and Behavior, 7*, 105–111. <http://dx.doi.org/10.1089/109493104322820174>
- Zoghbi-Manrique-de-Lara, P. (2011). Predicting nonlinear effects of monitoring and punishment on employee deviance: The role of procedural justice. *European Management Journal, 29*, 272–282. <http://dx.doi.org/10.1016/j.emj.2011.03.003>
- Zoghbi-Manrique-de-Lara, P., & Olivares-Mesa, A. (2010). Bringing cyber loafers back on the right track. *Industrial Management and Data Systems, 110*, 1038–1053. <http://dx.doi.org/10.1108/02635571011069095>
- Zoghbi-Manrique-de-Lara, P., Verano Tacoronte, D., & Ting Ding, J. M. (2006). Do current anti-cyberloafing disciplinary practices have a replica in research findings? A study of the effects of coercive strategies on workplace Internet misuse. *Internet Research, 16*, 450–467. <http://dx.doi.org/10.1108/10662240610690052>

(Appendix follows)

Appendix

Scales and Items Used

Self-Efficacy to Hide

- I *could* hide what I do on my work computer from other employees.
- I *could* pretend to be working on my computer and people would never know.
- I *could* hide my computer activity if I wanted to.

Computer Screen Visibility

- My computer screen is highly visible to other employees.
- It is easy for people to see my computer screen without me knowing.
- There are a lot of people around me when I am working.

Detect Others Approaching

- I can see people approaching my work station.
- I can hear people approaching my work station.

Assigned (vs. Shared) Computer

- I have an assigned computer at work.

Electronic Monitoring

- My company monitors my computer activity.
- My company keeps records of my computer activity.
- My company keeps logs of the websites I visit.

Theft

- Stole something belonging to someone at work.
- Took supplies or tools home without permission.
- Put in to be paid for more hours than you worked.

Production Deviance

- Purposely worked slowly when things needed to get done.
- Purposely failed to follow instructions.
- Purposely did your work incorrectly.

Sabotage

- Purposely damaged a piece of equipment or property.
- Purposely wasted your employer's materials/supplies.
- Purposely dirtied or littered your place of work.

Abuse

- Been nasty or rude to a client or customer.
- Insulted or made fun of someone at work.
- Told people outside the job what a lousy place you work for.

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