



Brief Report

Yielding to (cyber)-temptation: Exploring the buffering role of self-control in the relationship between organizational justice and cyberloafing behavior in the workplace

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ABSTRACT

Guided by the Strength Model of Self-control (Muraven & Baumeister, 2000) and the General Theory of Crime (Gottfredson & Hirschi, 1990), we examined the role of self-control in buffering the negative relationship between perceived organizational justice and cyberloafing behavior. Two hundred thirty-eight employee and co-worker dyads participated in the study. Organizational justice negatively predicted cyberloafing behavior, though this relationship had ceased to be statistically significant after controlling for gender, age, and hours of internet use for work-related activities. In addition, self-control moderated this relationship. Specifically, there was a stronger negative relationship between perceived organizational justice and cyberloafing for employees with high as opposed to low levels of self-control.

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1. Introduction

Cyberloafing behavior is a persistent problem in today's organizations. It refers to the use of internet resources for personal use during work hours (Lim, 2002). Specifically, it may involve activities such as receiving and sending non-work related emails, surfing non-work related websites for non-work purposes, and downloading non-work related information. Studies have reported that approximately 30% to 65% of internet usage at work is non-work related (Barlow, Bean, & Hott, 2003; Verton, 2000). Organizations lose as much as 1\$ billion per annum in labor costs as a result of internet usage for non-work-related activities (Ananadarajan, Simmers, & Igbaria, 2000). Apart from loss of productivity, personal internet usage has also been associated with network congestion, vulnerability to malware and hacking, and potential legal liability (e.g., copyright infringement, harassment, and defamation; Chen, Chen, & Yang, 2008).

Since there has been little empirical work concerning cyberloafing behavior, it is difficult to discern the role of personality in explaining the incidence of cyberloafing in the workplace. Most

empirical studies have examined cyberloafing from a situational perspective, often as a response to injustice (Lim, 2002; Teo, Lim, & Lai, 1997). In this brief report, we test the interactive effects of organizational justice (a situational variable) and self-control (a personality/dispositional variable) in predicting cyberloafing behavior. By testing these relationships, we contribute to the literature in three important ways. First, we build on prior research by examining the possibility of a situational (justice perceptions) by dispositional (self-control) interaction firmly embedded in an interactionist perspective (Schneider, 1983). The interactionist perspective adds greater precision to our predictions as it broadens our understanding of how the confluence of situational and dispositional factors result in cyberloafing behavior in addition to their independent effects. Second, the studies that have examined cyberloafing behavior have exclusively relied upon employees' reports of their own behavior. This is problematic as there are inherent limitations in using self-reported measures of behavior (e.g. social desirability bias, same-source bias). Thus, it is important to determine whether justice perceptions and self-control are related not just to employee self-reports of their own behaviors, but to co-workers' perceptions of their behaviors as well. Finally, previous studies have not accounted for the role of control variables that are likely to influence cyberloafing. The inclusion of control variables is important as it bolsters confidence in the observed pattern of relationships as well as helps rule out alternative explanations.

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In this study, we controlled for employees' gender, age, and hours of internet use for work-related activities. Research on counterproductive behavior suggests that men were more likely to engage in technology-oriented production deviance as compared to women (Garrett & Danziger, 2008). Similarly, age has been found to be negatively related to information technology misuse at work (de Lara, 2006; Philipps & Reddie, 2007). Finally, the effects of the number of hours of internet use for work-related activities were also controlled to account for legitimate internet usage (Blanchard & Henle, 2008; Lim, 2002). Longer hours spent on the internet for work-related activities indicate less restricted access.

Organizational justice has been classified into three dimensions (Niehoff & Moorman, 1993): (a) distributive justice, which concerns the perceived fairness of resource allocation; (b) procedural justice, which concerns the perceived fairness of the processes used in decision-making; and (c) interactional justice, which concerns the quality of interpersonal interaction between individuals and how decisions are communicated to employees. Aquino, Lewis, and Bradfield (1999) proposed that procedural justice and interactional justice are more related to deviant acts against the organization while distributive justice is more related to interpersonal deviance. Cyberloafing is considered as a form of production deviance directed to the organization (Lim, 2002). Thus, both interactional and procedural justice are more salient in the context of cyberloafing behavior. In a meta-analytic study Cohen-Charash and Spector (2001) found that procedural justice was negatively related to counterproductive behaviors while interactional justice was negatively associated with aggressive behaviors directed towards the organization (Aquino et al., 1999). The theoretical interpretation of these findings is derived from social exchange theory (Blau, 1964) where employees and their organization are engaged in a social exchange relationship. When employees are dissatisfied with fairness of procedures and interpersonal treatment, they are more likely to exhibit misconduct and engage in counterproductive behaviors. In the context of our research, several studies have reported a negative relationship between perceived organizational justice and self-reported cyberloafing behavior (de Lara, 2006; Lim, 2002). Based on social exchange theory and previous research, we predict that perceptions of procedural justice (Hypothesis 1a) and interactional justice (Hypothesis 1b) will be negatively related to self-reported and co-worker rated cyberloafing behaviors.

Self-control is a stable and distinctive human attribute characterized by the modulation and regulation of affect, behavior, and cognition towards the fulfillment of goals (Gottfredson & Hirschi, 1990). According to the strength model of self-control (Muraven & Baumeister, 2000), exerting self-control in one act may deplete self-control strength that is applied to subsequent acts. In other words, self-control may be likened to a limited resource and that individuals can only regulate a certain number of urges at any given time. Furthermore, the strength model of self-control recognizes individual differences in self-control strength. Certain individuals have greater self-control strength while others have less. For example, individuals low in self-control have been found to have lower subjective well-being (Wrosch, Scheier, Miller, Schulz, & Carver, 2003) and academic achievement (Shoda, Mischel, & Peake, 1990) and greater propensity to experience burnout (Schmidt, Neubach, & Heuer, 2007) and engage in workplace deviance (Bordia, Restubog, & Tang, 2008; Restubog, Garcia, Wang, & Cheng, 2010). For this reason, we predict a negative relationship between self-control and self-reported and co-worker rated cyberloafing behavior (Hypothesis 2).

The effect of low self-control on cyberloafing may be aggravated when it occurs in conjunction with certain situational factors. This proposition draws on Gottfredson and Hirschi's general theory of crime (1990) which posits that individuals with low levels of self-control are more likely to respond to situational triggers with

negative behaviors when given the opportunity to do so. In other words, low self-control may serve as a vulnerability factor that results in counterproductive behaviors such as cyberloafing, especially in the presence of certain situational triggers. Organizational injustice may operate as one such trigger because it is an emotionally-provoking situation (e.g., employees experiencing unjust procedures, and employees mistreated by the supervisor) and is likely to fuel negative affective reactions (Bordia et al., 2008; Cohen-Charash & Spector, 2001). To this end, individuals with low levels of self-control may potentially engage in cyberloafing as a form of aggressive reprisal triggered by systematic organizational injustice. Thus, we predict that self-control would moderate the relationship between perceived procedural and interactional justice and cyberloafing behavior. That is, there should be a stronger negative relationship between procedural (Hypothesis 3a) and interactional (Hypothesis 3b) justice and cyberloafing behavior for employees with high as opposed to low levels of self-control.

2. Methods

2.1. Participants and procedure

Data were collected from administrative and non-academic personnel and their co-workers in a large university in the Philippines. Three hundred ten employees received surveys assessing their demographic characteristics, justice perceptions, self-control, and cyberloafing behavior. Two hundred thirty-eight employees voluntarily completed the surveys, representing a response rate of 76.77%. In addition, one co-worker of each of these employees received a co-worker rating form, of which 252 voluntarily participated (81.29% response rate). Co-workers rated the extent to which the focal employees engaged in cyberloafing at work. These co-workers were nominated by the personnel office as someone who regularly interacts and works collaboratively with the focal employee within the same work unit. To match responses, participants created their own unique code identifier. Overall, we yielded 238 independent employee-co-worker dyads.

Of the 238 employees, 57.6% were male and 42.4% were female. The average age was 31.32 years with a standard deviation (SD) of 6.92 years. More than half of the employees (59.7%) had been working in their organization between 1 and 5 years. Participants reported using the internet for work-related purposes for 3.20 hours (SD = 1.52) on average per day. Of the 238 co-workers who participated, 63.9% were males. The age of the co-workers were assessed using age bands and were reported as follows: less than 20 years (2.9%), 20–25 years (41.60%), 26–30 years (38.2%), 31–35 years (8.4%), 36–40 years (3.4%), 41–45 years (4.60%), and 46–50 years (.80%). Most of the co-worker participants (71%) had been working in their organization between 1 and 5 years. Co-worker participants have known the focal employees for an average of 3 years.

2.2. Measures

Unless otherwise specified, the response anchors for all items, excluding the demographic variables, were 7-point Likert-type scales (1 = strongly disagree; 7 = strongly agree), with items coded such that a higher score indicated a greater amount of the focal construct.

2.2.1. Organizational justice

We assessed justice along two dimensions. Procedural justice was measured using the 6-item scale developed by Niehoff and Moorman (1993). An example item is, "My immediate supervisor

makes sure that all employee concerns are heard before job decisions are made”. Interactional justice was assessed using the 9-item scale developed by Niehoff and Moorman (1993). An example item is, “When decisions are made about my job, my immediate supervisor is sensitive to my personal needs”.

2.2.2. Self-control

The self-control subscale was derived from the Personal Values Scale (Scott, 1965) to assess the extent to which an individual engages in self-control (1 = Strongly disagree to 7 = Strongly agree). An example item is, “I practice self-control”. Scott (1965) has reported a reliability coefficient that exceeded .80. Previous research reported internal consistencies ranging between .87 and .92 (Bordia et al., 2008; Douglas & Martinko, 2001; Restubog et al., 2010).

2.2.3. Self-reported and co-worker rated cyberloafing behavior

Cyberloafing behavior was measured using a 22-item scale developed by Blanchard and Henle (2008). An example item is: “Sent non-work related email”. Co-workers were also requested to provide an assessment of the employees’ cyberloafing behavior.

2.2.4. Control variables

In order to rule out alternative explanations to our findings, we controlled for several variables such as gender (males were coded as 0; females were coded as 1), age, and number of hours of internet use for work-related activities.

3. Results

The means, standard deviations, inter-correlations, and internal consistency reliabilities for the study variables are summarized in Table 1. Internal consistency estimates were all above .90. All of the correlations were in the predicted direction. There were also significant correlations between the control variables and outcome measures. For example, men were more likely to engage in cyberloafing behavior as compared to women. Similarly, age was associated with both self- and co-worker ratings of cyberloafing, indicating that older employees were more likely to engage in cyberloafing. Finally, hours of internet usage for work-related activities was also positively associated with cyberloafing behavior. Given these relationships, we controlled for these variables in subsequent analyses.

We conducted separate hierarchical multiple regressions for each dimension of organizational justice in conjunction with self-control. Following Aiken and West (1991), we entered control variables (i.e., gender, age, hours of internet usage for work-related activities) in the first step of the regression equation. In the second step, we entered a specific dimension of organizational justice in conjunction with self-control to test for main effects. Finally, two-way multiplicative terms were computed between the independent and moderator variables to test for two-way interaction effects and were entered in Step 3. In order to reduce multi-collinearity, the independent and moderator variables were centered at their means prior to the creation of the interaction terms (Aiken & West, 1991). To fully test Hypotheses 3a and 3b, we followed the guidelines recommended by Aiken and West (1991) for moderated regression. In particular, we examined the sign and significance of the slope of the relationship between each type of justice and self-

Table 1
Descriptive statistics, zero-order correlations, and reliability coefficients for the study variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Gender	.42	.49								
2. Age	31.32	6.92	.08							
3. Average number of hours of internet usage/day for work-related activities	3.20	1.52	.12	.10						
4. Procedural justice	5.77	1.05	-.01	-.45***	-.20**	(.93)				
5. Interactional justice	5.90	1.02	-.03	-.46***	-.13*	.77***	(.95)			
6. Self-control	5.43	1.28	-.06	-.45***	-.06	.60***	.65***	(.93)		
7. Self-reported cyberloafing	2.99	1.16	.18**	.37***	.31***	-.31***	-.31***	-.33***	(.94)	
8. Co-worker rated cyberloafing	2.97	1.09	.16*	.41***	.31***	-.32***	-.25***	-.35***	.64***	(.93)

* p < .05.
** p < .01.
*** p < .001.

Table 2
Hierarchical regression analysis for procedural justice, interactional justice, and self-control predicting self- and co-worker rated cyberloafing behavior.

	PJ × self-reported cyberloafing			PJ × co-worker rated cyberloafing			IJ × self-reported cyberloafing			IJ × co-worker rated cyberloafing		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	.12	.11	.11	.10	.10	.10	.11	.11	.11	.10	.09	.09
Age	.33***	.24***	.24***	.38***	.29***	.29***	.33***	.24***	.24***	.38***	.31***	.31***
Average number of hours of internet usage/day for work-related activities	.27***	.26***	.22***	.26***	.25***	.22***	.27***	.26***	.23***	.26***	.26***	.25***
Procedural justice (PJ)		-.05	-.03		-.02	-.01						
Interactional justice (IJ)								-.05	-.03		-.09	-.04
Self-control (SC)		-.17**	-.19**		-.19**	-.20**		-.17**	-.19**		-.25**	-.26**
PJ × SC			-.26***			-.21***						
IJ × SC									-.26***			-.19*
ΔR ²		.03**	.04***		.03**	.03***		.03**	.03***		.04**	.02*

* p < .05.
** p < .01.
*** p < .001.

control. We plotted the slopes at one standard deviation above (i.e., high self-control) and below (i.e., low self-control) the mean of self-control.

Tables 2 shows the results for the regression analysis. Results suggest both procedural and interactional justice were not significantly related to self- and co-worker rated cyberloafing behavior, after controlling for gender, age, and number of hours of internet usage for work-related activities. Hypotheses 1a and 1b were not supported. In contrast, we found that self-control was negatively associated with both self-reported and co-worker assessments of cyberloafing behavior. Hypothesis 2 was supported.

Entry of the multiplicative terms in Step 3 explained an additional amount of variance in predicting both self-reported and

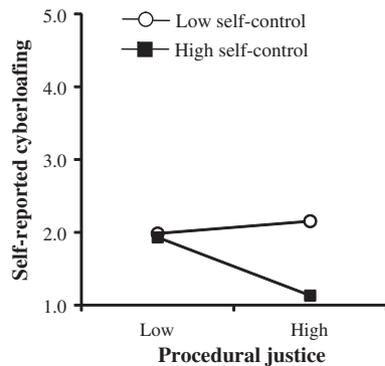


Fig. 1. The relationship between procedural justice and self-rated cyberloafing under low and high levels of self-control.

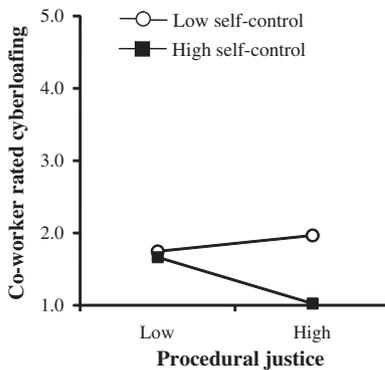


Fig. 2. The relationship between procedural justice and co-worker rated cyberloafing under low and high levels of self-control.

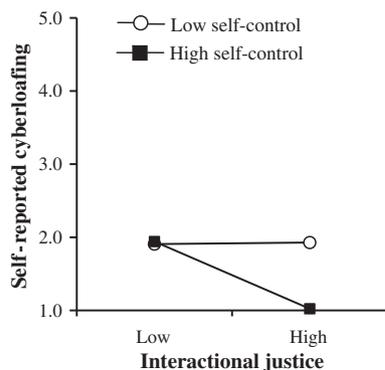


Fig. 3. The relationship between interactional justice and self-rated cyberloafing under low and high levels of self-control.

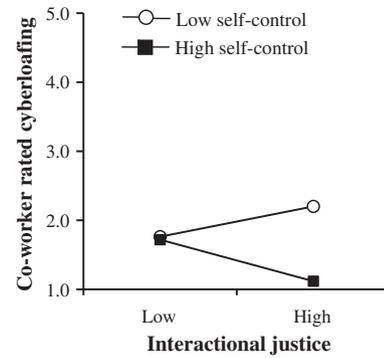


Fig. 4. The relationship between interactional justice and co-worker rated cyberloafing under low and high levels of self-control.

co-worker rated cyberloafing. The interaction terms representing procedural justice \times self-control were statistically significant for both self-reported and co-worker rated cyberloafing. Fig. 1 shows a negative relationship between procedural justice and self-reported cyberloafing for those individuals with high self-control, $t(231) = -3.16, p < .001$. At low levels of self-control, the association between procedural justice and self-reported cyberloafing was non-significant, $t(231) = .83, p = .41$. Similarly, Fig. 2 shows that the negative effects of procedural justice on co-worker rated cyberloafing were statistically significant for those individuals with high levels of self-control, $t(231) = -2.80, p < .01$. In contrast, the relationship between procedural justice and co-worker rated cyberloafing was not significant for individuals with low levels of self-control, $t(231) = 1.28, p = .20$. A similar pattern of results emerged for interactional justice. Fig. 3 shows that at high levels of self-control, there was a significant negative association between interactional justice and self-reported cyberloafing, $t(231) = -2.93, p < .01$. However, at low levels of self-control, the relationship between interactional justice and self-reported cyberloafing was non-significant, $t(231) = .11, p = .91$. Finally, Fig. 4 shows a negative relationship between interactional justice and co-worker ratings of cyberloafing for those individuals with high self-control, $t(231) = -2.01, p < .05$. In contrast, there was a positive relationship between interactional justice and co-worker rated cyberloafing for those with low levels of self-control, $t(231) = 2.71, p < .01$. Overall, Hypotheses 3a and 3b were supported.

4. Discussion

Guided by the strength model of self-control (Muraven & Baumeister, 2000) and the general theory of crime (Gottfredson & Hirschi, 1990), we examined the interaction between perceived organizational justice and self-control in predicting cyberloafing behavior. The zero-order correlations revealed that there was a significant negative relationship between procedural and interactional justice and cyberloafing (i.e., self-rated and co-worker rated). However, this negative relationship was no longer significant after controlling for the effects of age, gender, and hours of internet use for work-related activities. Thus, both Hypotheses 1a and 1b were not supported. These results run counter to previous research implicating perceptions of fairness as situational antecedents of cyberloafing (de Lara, 2006; Lim, 2002). It is important to note that these studies did not control for demographic variables in spite of evidence to suggest that age and gender influence internet misuse (Weatherbee, 2010).

A key finding in our research is that self-control was negatively related to both self-reported and co-worker rated cyberloafing behavior. This is consistent with previous research that counter-

productive behavior, including cyberloafing, is due to failed self-regulation (Yellowees & Marks, 2007). Thus, individuals high in self-control may more readily delay gratification that they derive from internet surfing and personal email use while at work. More importantly, our results suggest that for those who are high in self-control, the higher their perceived procedural and interactional justice, the lower their cyberloafing behavior. Individuals high in self-control were more capable of overriding their impulses to retaliate in response to perceived injustice than those low in self-control. Along similar lines, individuals high in self-control may have been more able to reappraise the situation, suppress their impulses, and distract themselves from engaging in indirect retaliatory acts such as cyberloafing (Wilkowski & Robinson, 2008).

The correlations between age and hours of internet use for work-related activities and cyberloafing are also interesting. Contrary to previous work, we found that older employees engaged in more cyberloafing compared to younger employees. This is probably due to the fact that our sample consists of tenured administrative university staff. It is common for older employees in the Philippine universities to acquire job security and tenure. As a result, it is plausible that these employees may engage in more cyberloafing behavior because these relatively minor forms of counterproductive acts are not sufficient grounds for termination. Furthermore, the longer employees use the internet for work-related activities, the more likely they are to engage in cyberloafing. Since using the internet is part of their job, they may be better at masking internet misuse by appearing efficient and productive.

Like most research, our study has limitations that warrant discussion. Because our data were cross-sectional in nature, inferences of causality cannot be made. For instance, it is possible that organizations that allow cyberloafing behavior may be eventually perceived as unjust. Thus, further research is needed to examine the interrelationships of the variables over time. In addition, an experimental research design, whenever possible is recommended to provide evidence for causality.

In conclusion, our results highlight the important role of self-control in regulating cyberloafing behavior may it be a form of temptation or in response to perceived injustice. Specifically, individuals low in self-control may be tempted to engage in cyberloafing because of distractions and lack of severe sanctions if caught. Overall, these findings extend research on cyberloafing by providing evidence on the interplay of person and contextual variables in predicting this type of counterproductive behavior.

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