

**BROWSING AND EMAILING: IMPACT OF CYBERLOAFING ON WORK
ATTITUDES**

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ABSTRACT

We developed and tested a model examining the relationship between cyberloafing, work facilitation/depletion and employees' work attitudes. Specifically, we focused on the impact of different cyberloafing activities – browsing and emailing – on employees' job satisfaction and organizational commitment. Using data obtained from 191 working professionals, we found that browsing activities were associated with work facilitation and emailing activities were associated with work depletion. Work facilitation and depletion in turn affect job satisfaction and organizational commitment. Implications of our findings are discussed.

Keywords: attitudes; behaviour of individuals; communications; virtual organization; cyberloaf

The Internet has been widely hailed as the single most powerful tool that changes the way we think about communications, work and play. Businesses are quick to recognize the immense potential of the Internet such that it has become an integral part of the business landscape today. While the Internet has revolutionized when and how work can be conducted, it has also increased the opportunities for when and how work can be avoided.

A survey conducted in 2006 by WebSense.com (www.websense.com) revealed that the average American employee spent about 24% of his working hours online on non-work related activities. This puts the average amount of time spent on non-work related Internet activities at approximately 10 hours per employee per week. Although employees have long found ways to loaf on the job through extended lunch breaks or washroom visits, the stealth nature of online loafing has enabled employees to engage in counterproductive behavior while maintaining the guise of work (Griffiths, 2003; Lim, 2002). The term 'cyberslacking' or 'cyberloafing' is used to describe such online non-work related activities.

In this study, cyberloafing is defined as the 'voluntary acts of employees using their companies' Internet access for non-work related purposes during working hours' (Lim, 2002:677). Although previous studies have noted that cyberloafing is multi-dimensional, (Griffiths, 2003; Lim, 2002), these studies had assumed that different online activities will predict work outcomes in a similar manner. Such assumptions warrant closer scrutiny. Recent evidence suggested that certain online activities, for example emailing, are

more detrimental to work than others in that they lead to negative affect, frustration and work interruption (Lazar, Jones and Shneiderman, 2006; Macklem, 2006). By examining cyberloafing as a unidimensional construct, prior research had offered a rather simplistic explanation to a relatively complex phenomenon.

Research on cyberloafing had typically examined the antecedents of cyberloafing (e.g. Henle and Blanchard, 2008; Lim, 2002) or its impact on organizational outcomes (e.g. Griffiths, 2003, Mastrangelo, Everton, and Jolton, 2006). Much less is known about its impact on employees' work attitudes.

In this study, we teased apart the different dimensions of cyberloafing and examined their differential impact on employees' work attitudes. Specifically, we examined two types of cyberloafing activities, namely *browsing* and *emailing* on employees' job satisfaction and organizational commitment. Browsing refers to the use of web browser to surf the Internet for non-work related purposes and emailing refers to the use of personal emails for non-work related communications. We draw from facilitation and depletion framework provided by work-family research (e.g. Edwards and Rothbard, 2000; Greenhaus and Beutell, 1985) to investigate how the different types of cyberloafing affect employees' work attitudes.

Our study extends the research on cyberloafing in two main ways. First, our study contributes to and expands the focus of cyberloafing literature by distinguishing between browsing activities and emailing activities. We predict that browsing activities are likely to bring about work facilitation by providing employees with additional resources to cope with work while emailing activities are likely to be related to work depletion in that it drains employees' energy and resources. This research focus is of practical relevance as it helps scholars and managers identify and understand the impact of different types of non-work related online activities at the workplace. In doing so, the potential benefits of some of these cyberloafing activities can be harnessed and the detrimental effects mitigated.

Second, our study contributes to the cyberloafing literature by linking this stream of research with work facilitation/depletion framework. This study is the first of its kind in providing a theoretical explanation on how cyberloafing affects organizational outcomes. By proposing that work facilitation generated by browsing activities will enhance job satisfaction and organizational commitment while work depletion from emailing activities will reduce job satisfaction and organizational commitment, this study

builds on prior research on cyberloafing by elucidating the underlying mechanisms on how cyberloafing affects organizational outcomes. A research model linking the core variables is depicted in Figure 1.

INSERT FIGURE 1 ABOUT HERE

THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

Cyberloafing and Work Facilitation/Depletion

Facilitation framework suggests that multiple role engagements bring about gains in resources (Marks, 1977; Siber, 1974). In this study, resources are defined as personal characteristics, conditions or energies that are valued by individuals (Hobfoll, 1989). These resources help employees accomplish work objectives and are transferable from an activity/task/role to another, enhancing the functioning of other activities/tasks/roles through instrumental and affective pathways (Greenhaus and Powell, 2006).

Several studies suggested that cyberloafing facilitates work by providing employees with resources to cope with work requirements. For instance, Oravec (2002) explained that cyberloafing is a form of constructive recreation through which employees gain new work knowledge. Anandarajan and Simmers (2005) found that cyberloafing improved overall workplace productivity as it generated creative ideas and enhanced workplace learning. Further, anecdotal evidence showed that some of the websites commonly visited by employees included online news and information websites such as Wikipedia (e.g. Horrigan, 2006; Scott, 2006). Browsing these websites is likely to be beneficial for two reasons. First, when employees read online news or visit information websites, they are likely to encounter updated market information or interesting information which may be helpful for work. Second, browsing these websites is a relatively pleasant activity as it allows employees to temporarily detach themselves from work stressors. Although not all browsing activities will lead to acquisition of new knowledge, this temporary detachment and escape from work allow employees to recuperate from work demands and is likely to lead to resource gain in the form of positive energies (Stanton, 2002).

Conservation of resources theory (COR) suggested that people are likely to 're-invest the resources gained and use them to acquire other desirable resources' (Hobfoll, 1989: 517). Consistent with COR theory, we argue that employees will re-invest the new knowledge (instrumental pathway) and positive energies (affective pathway) gleaned from cyberloafing to enhance their work performance.

Empirical evidence showed that employees are likely to use their companies' email for personal communications (Fallows, 2002). This interspersed use of personal emails among work-related emails has a negative impact on work as employees find themselves having to reply to both work and non-work related emails. Although it could be argued that employees should ignore personal emails, prior research found that employees have the urge to reply to all incoming emails, regardless of the nature of the message (Macklem, 2006). In this sense, personal emails are disruptive and interrupt individuals' work flow (Macklem, 2006). Indeed, email has been hailed as one of the major culprits that distract employees from their work (Fallows, 2002). A survey on Internet use showed that 28% of employees surveyed found emails to be distracting (Fallows, 2002), 40% did not return to their original task after spending time to reply or send email (Macklem, 2006).

These findings are not surprising as time, energy and cognitive resources are required to send and reply to emails. By allocating time and energy to emailing, employees will have fewer resources, both physical (e.g. energy and time) and cognitive (e.g. attention and concentration) to perform work. This struggle for resources between work and emailing has a negative impact on work. Research on depletion framework provides support for this line of reasoning.

Depletion framework argues that people have a fixed amount of psychological and physiological resources that they can expend (Goode, 1960). These resources are non-replaceable in the short run (Eckenrode and Gore, 1990). By expending these resources in one activity/role, individuals reduce their availability for other activities/roles. Research found that when employees faced conflicting demands from work and family, they are likely to suffer from resource depletion and encounter difficulties in fulfilling their roles (e.g. Boles, Howard and Donofrio, 2001). This is because both work and family demands tap on the same pool of resources that an employee possesses. By allocating some resources to

work demands, employees inadvertently will have fewer resources to cope with the family demands and vice-versa. Similarly, when employees engage in cognitively taxing emailing activities, fewer resources will be available for work activities. In line with these arguments, we posit:

Hypothesis 1a: Browsing activities are positively related to work facilitation and are negatively related to work depletion.

Hypothesis 1b: Emailing activities are negatively related to work facilitation and are positively related to work depletion.

Browsing and Work Attitudes

Since browsing activities provide employees with new resources (Hypothesis 1a), we predict that employees are likely to perform better at work and consequentially experience job satisfaction and organizational commitment through the process of work facilitation. We draw from research on work-family literature to explain this relationship.

Research on work-family facilitation found that inter-role facilitation and resource gains yield positive work outcomes such as job satisfaction and organizational commitment (e.g. Wayne, Musisca, and Fleeson, 2004). This is because resources gleaned from one role help individuals to perform better in other roles, thus leading to role fulfillment. Consequently, the individual will demonstrate positive attitudes in the form of satisfaction and commitment to one's tasks and roles (Wayne et. al., 2004). Similarly, inter-role facilitation and the transference of resource surpluses reflect the ability to integrate demands from competing tasks. The ability to cope efficiently with multiple roles is likely to bring about an enhanced sense of confidence, satisfaction and fulfillment (Ruderman, Ohlott, Panzer and King, 2002).

Along this line of reasoning, we argue that resources gleaned from browsing will help employees accomplish their work, enhance their sense of confidence and self esteem. This enhanced sense of confidence and self esteem will energize and help them develop positive attitudes towards work in the form of increased job satisfaction and commitment. Hence, we hypothesize that:

Hypothesis 2a: Work facilitation is positively related to job satisfaction and organizational commitment

Emailing and Work Attitudes

Compared to browsing, emailing is a cognitively taxing activity as energy and time are needed to craft the email message (Macklem, 2006). When personal resources such as energy and time are depleted, individuals are likely to develop negative attitudes and behaviors. This is because depletion of valuable resources are stressful, often resulting in undesirable stress related outcomes and negative work attitudes such as dissatisfaction (Hobfoll, 1989). Given that emailing activities and work activities tap on the same pool of resources, employees are likely to experience a depletion effect. Consequentially, their ability to complete their work will be affected, leading to an aversion towards work. We draw from work-family conflict literature to provide support for this prediction.

Work-family conflict research noted that resource depletion arising from multiple role demands are detrimental, often giving rise to reduced job satisfaction and organizational commitment (e.g. Allen, Herst, Bruck, and Sutton, 2000). This is because multiple and conflicting demands from work and family roles reduce employees' time and energy.

Extending these arguments to cyberloafing, when employees engage in emailing, they are likely to experience a reduction in energy and cognitive resource. This reduces the resources available for work, rendering work accomplishment a challenge. The inability to fulfill work requirements will interfere with one's job satisfaction and organizational commitment. Thus,

Hypothesis 2b: Work depletion is negatively related to job satisfaction and organizational commitment

METHOD

Procedures and Sample

Data for this study were obtained through the use of mail survey. Prior to administration, a pre-test was conducted with a group of working professionals (N = 15) to obtain feedback regarding the clarity of the instructions and overall presentation of the questionnaire. Several minor modifications were made to the instrument to improve its overall clarity.

Respondents for the main study were drawn randomly from the alumni list of a business school in Singapore. A package containing the cover letter, survey and a stamped reply envelope was sent to respondents. Respondents were requested to return the completed survey in the sealed envelope about a month after receipt of the package. Postal survey is deemed appropriate for this study as Lim (2002) had highlighted that the use of online surveys for any cyberloafing studies would render the sample to self-selection bias i.e. respondents might be employees who are likely to cyberloaf. The use of postal survey is likely to reduce this self selection bias. Of 600 surveys administered, 191 useable responses were obtained, yielding a response rate of 32%. This response rate is comparable to that of other cyberloafing studies published in academic journals (e.g. Davis, Flett and Besser, 2002; Garrett and Danziger, 2008). Men comprised 34% of respondents. The average age was approximately 28 years old ($SD = 6.70$), and their average working experience was 4.54 years ($SD = 6.56$ years).

Measures

Browsing and Emailing Activities. The cyberloafing scale developed by Lim and Teo (2005) was used to assess this variable. 13 items were scored from (1) Never to (5) Constantly and subjected to factor analyses. 4 items (“visiting adult websites”, “play online games”, “look for employment” and “instant messaging”) were removed due to poor factor loadings. The remaining 9 items loaded onto two factors. Table 1 summarizes the results of factor analyses.

INSERT TABLE 1 ABOUT HERE

The first factor, *browsing activities*, comprised 6 items ($\alpha = .76$). Sample items include “Visit news websites” and “Visit sports websites”. The second factor *emailing activities*, comprised 3 items ($\alpha = .84$). Sample items include “Check non-work related email” and “Send non-work related email”.

Work Facilitation and Work Depletion. These variables were assessed with 9 items developed by Butler (2007). Wordings in the items were modified to suit the cyberloafing context. *Work facilitation*

subscale comprised 5 items ($\alpha = .93$). A sample item includes “Engaging in non-work related online activities at work helps me deal with practical issues at work” *Work depletion* subscale comprised 4 items ($\alpha = .96$). A sample item includes “Engaging in non-work related online activities takes up time that I would rather spend on work”. Items were anchored from (1) Strongly disagree to (7) Strongly agree.

Job Satisfaction. Job satisfaction was assessed with 5 items developed by Hackman and Oldham (1975) ($\alpha = .84$). Sample items include: “Generally speaking, I am very satisfied with my job” and “I am generally satisfied with the kind of work I do in this job”. All items were anchored from (1) Strongly disagree to (7) Strongly agree. High scores on this scale reflect high levels of job satisfaction.

Organizational Commitment. Organizational commitment was assessed with 10 items taken from the scale developed by Mowday, Steers and Porter (1979) ($\alpha = .94$). Sample items include: “I talk about this organization to my friends as a great organization to work for”, “I really care about the fate of this organization” and “For me, this is the best of all possible organizations for which to work for”. All items were anchored from (1) Strongly disagree to (7) Strongly agree. High scores on this scale reflect high levels of organizational commitment.

ANALYSES AND RESULTS

Table 2 shows the correlations among variables examined in this study. Results of correlational analyses revealed that the variables in our study are related in the expected direction.

INSERT TABLE 2 ABOUT HERE

Results

Structural equation modeling with Mplus was used to test the research model. Prior research in cyberloafing had noted that different cyberloafing activities are often correlated with one another and respondents who cyberloaf are likely to engage in both browsing and personal emailing (e.g. Fox, 2007, Lim, 2002). Thus, it is reasonable to believe that an individual is able to experience both work facilitation

and work depletion, depending on the type of cyberloafing activities that he/she engages in. To model the correlation between browsing/emailing and work facilitation/depletion, these variables were allowed to correlate with each other in the structural model.

Results suggested that the research model is a good fit for the data ($\chi^2(4) = 1.25, p = .87, CFI = .99, TLI = .99, RMSEA = .00$). Nested model analysis was done to assess the absolute fit of the hypothesized model (Anderson and Gerbing, 1998). The hypothesized model was compared with a less constrained model where paths were added from browsing and emailing to job satisfaction and organizational commitment. Chi-square comparison suggested that the chi-square differences between the two models is non-significant ($\Delta\chi^2(4) = 1.25, p = .87$). Thus the hypothesized model should be accepted.

INSERT FIGURE 2 ABOUT HERE

Results in Figure 2 suggested that browsing is positively and significantly related to work facilitation ($\beta = .20^*$) and is negatively and significantly related to work depletion ($\beta = -.33^{**}$). Thus Hypotheses 1a is supported. Emailing is marginally related to work depletion ($\beta = .15^\dagger$) and is not related to work facilitation ($\beta = -.02, n.s$). Thus Hypothesis 1b is marginally supported. As predicted, work facilitation positively and significantly predicts job satisfaction ($\beta = .16^*$) and organizational commitment ($\beta = .15^\dagger$). On the other hand, work depletion negatively and significantly predicts job satisfaction ($\beta = -.24^{**}$) and organizational commitment ($\beta = -.19^*$). Hypothesis 2a and 2b receives empirical support.

DISCUSSION

Findings of our study are instructive in that they revealed that browsing activities have positive impact on work facilitation. Work facilitation, in turn, positively impact job satisfaction and organizational commitment. It is plausible that browsing activities such as reading online news or periodic browsing of entertainment websites allow respondents to temporarily take their mind off work and offer employees a temporary respite from stress and pressure at work. Indeed, prior research on rest

breaks found that taking periodic breaks help to reduce mental fatigue, increase task productivity and job satisfaction (e.g. Dababneh, Swanson and Shell, 2001). Along this line of reasoning, we argue that when employees take short cyber rest breaks, they will experience net gratification. This net gratification creates additional energy which allows employees to recuperate from work demands. In turn, they are better able to cope with other work tasks.

Although emailing is only marginally related to work depletion, the significance value of $p < .10$ suggested a trend towards obtaining a significant relationship between emailing and work depletion. Despite being marginally significant, the relationships between emailing and work processes are theoretically and empirically interesting. Our findings indicated that that emailing activities have a depletive effect on work processes. Compared to browsing activities, emails are less predictable, more disruptive and negatively affect employees' ability to focus on work. Studies on email communication have found that even though most emails are unsolicited and are unimportant, employees find a compelling need to reply them (Macklem, 2006). When employees reply to these unsolicited and unimportant emails, their workflow is interrupted, leading them to experience negative affect and frustration as they experience difficulty in completing their work requirements.

Taken together, these findings suggested that whether cyberloafing positively or negatively impact work attitudes depends on the type of non-work online activities that employees engaged in and the facilitative/depletive effect these activities trigger.

RESEARCH AND PRACTICAL IMPLICATIONS

The present study makes several theoretical and practical contributions to research on cyberloafing. First, findings from this study are noteworthy in that they revealed that cyberloafing has an impact on employees' work attitudes. Prior studies had largely examined the impact of cyberloafing on work productivity and had neglected its impact on employees' work attitudes. A notable and unique contribution of this study is that it provides evidence that different types of cyberloafing activities, namely browsing activities enhance employees' job satisfaction and commitment through work

facilitation. Emailing activities on the other hand, result in work depletion and reduced job satisfaction and organizational commitment.

Second, findings from this study are instructive for the formulation and implementation of Internet policies. Our findings suggested that browsing activities are likely to generate new resources that enhance work processes. These resources may take the form of new information, new ideas or the latest market developments which employees may come across when they trawl the Internet for non-work related information. On the other hand, personal emailing is likely to impede work processes by draining employees' energy and concentration.

We do not suggest that companies allow their employees to engage in rampant cyberloafing, but rather, companies should implement acceptable Internet usage policies that harness the positive benefits of cyberloafing while minimizing its negative impact. In designing Internet policies, companies should encourage spontaneous constructive learning where employees are given the discretion to engage in reasonable amount of Internet browsing. More resources should be devoted towards curbing non-work related emails as they are dysfunctional to work processes.

Third, our study revealed that browsing activities are positively related to job satisfaction and organizational commitment. This suggested that employees are more satisfied in their jobs when their organizations allow them reasonable latitude in non-related activities. As employees today are spending more time at work, they have lesser time for personal activities. Thus, there is a pressing need for them to learn to juggle demands of work and personal life well. Organizations that allow their employees to use companies Internet access for non-work related purposes and reconcile their work and family demands are more likely to be favorably regarded by employees.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

There are several inherent limitations in this study. First, we acknowledge that our data is cross sectional. To better examine the causal relationship between cyberloafing activities and workouts, a longitudinal study or a laboratory experiment with objective measures should be carried out. Further, our

sample is obtained via convenience sampling. This limits the generalizability of our findings as industry background and job role may impact the relationship between cyberloafing and work attitudes. Future research should utilize random sampling methodology to increase the generalizability of the results.

Third, as with all self reported measures, inter-item correlation are subjected to potential inflation due to common method variance (Podsakoff and Organ, 1986). However, common method variance is not believed to be a problem in this study. As suggested by Podsakoff and Organ (1986), Harman's single factor test was performed to test for presence of common method variance. Harman's single factor test suggested that if substantial amount of common method variance is present, a single factor will emerge or a single factor will account for majority of the variance in the study. In this study, Harman's single factor test revealed that there are six distinct factors with no single factor accounting for majority of the variance.

Fourth, future research should tease apart different emailing activities and investigate their differential impact on work productivity and attitudes. While we predicted and found that emails generally had a negative impact on work, some emails may lead to employees' well-being and trigger positive emotions. Fallows (2002) found that employees use personal emails to gossip about their work and to discuss their personal issues. Although gossiping and discussing personal issues deplete employees' time, these activities serve as a form of palliative coping strategy for employees to vent their frustration. By gossiping and sharing personal issues, employees are able to obtain online social support. Previous research found that online social support does improve life satisfaction (Liu and LaRose, 2008). Thus, future research may want to examine the different emailing activities and their effects on employees' perceived online support and work attitudes.

CONCLUSION

As we enter the new wired workplace where the Internet plays an increasingly important role in how we work, play and communicate, cyberloafing will remain an issue of real concern to organizations. Thus, it behooves organizational scholars and human resource practitioners to understand and manage the potential darkside of cyberloafing and harness its potential benefits.

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Figure 1: Research Model

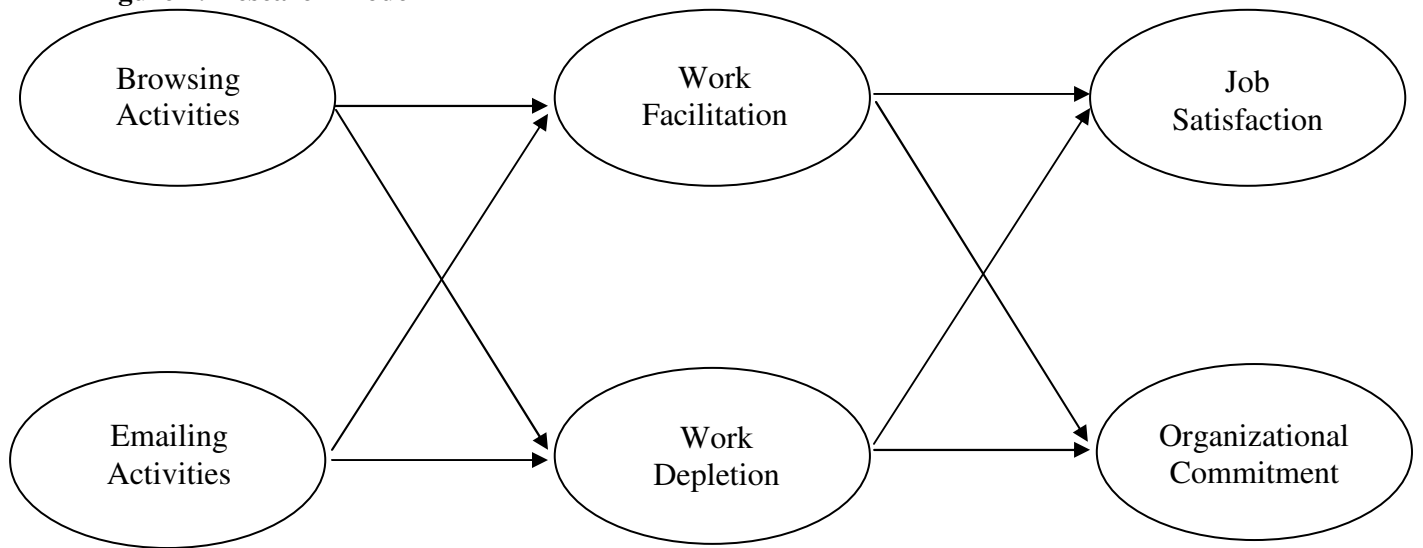
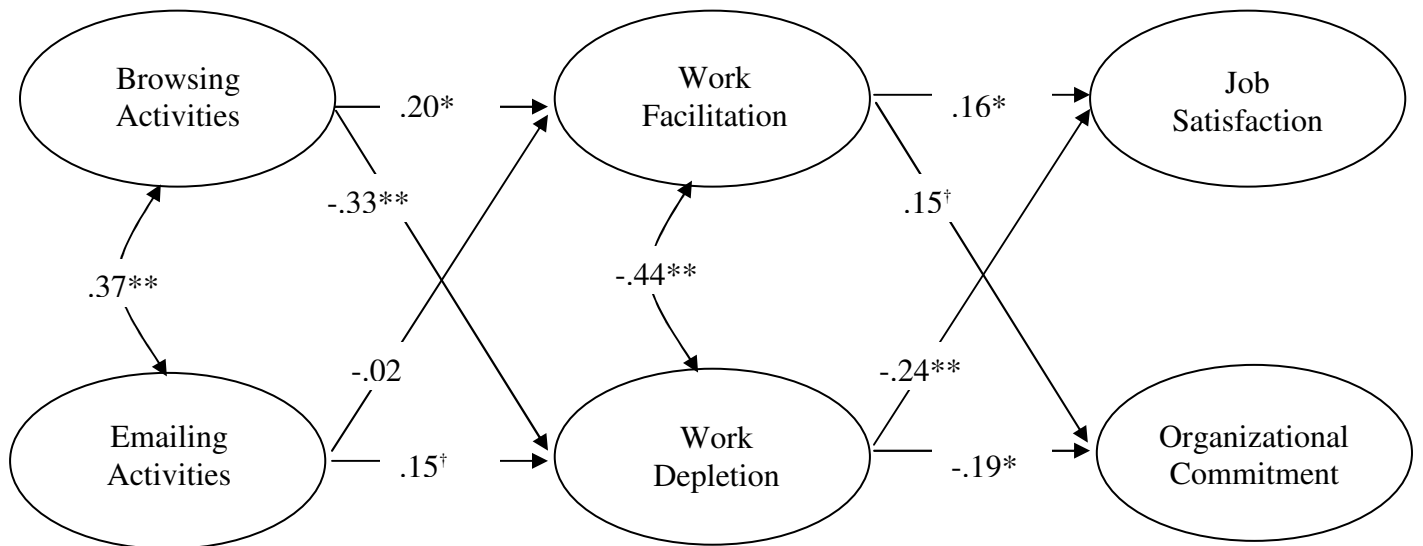


Figure 2: Structural Model



Goodness-of-fit Statistics
 $\chi^2(4, 191) = 1.25$ (n.s)
 CFI = .99
 NFI = .99
 RMSEA = .00
 † p < .1, *p < .05, **p < .01

Table 1: Factor analyses for browsing and emailing activities

Items	Factor Loadings
<p>Factor 1: Browsing Activities <i>Eigenvalue = 3.93, Explained Variance = 43.66, Cronbach's Alpha = .76</i></p> <p>Visit non-work related websites .79 Visit entertainment related websites .77 Visit sports related websites .73 Download non-work related information .68 Visit news websites .60 Online shopping .41</p>	
<p>Factor 2: Emailing Activities <i>Eigenvalue = 1.32, Explained Variance = 14.63, Cronbach's Alpha = .84</i></p> <p>Receive non-work related email .87 Check non-work related email .86 Send non-work related email .80</p>	

Table 2: Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5	6
1. Browsing Activities	2.63	0.79	(.76)					
2. Emailing Activities	2.97	0.97	.37**	(.84)				
3. Work Facilitation	4.39	1.49	.20**	.06	(.93)			
4. Work Depletion	3.12	1.56	-.28**	.02	-.49**	(.96)		
5. Job Satisfaction	4.61	1.50	.15*	-.01	.28**	-.32**	(.84)	
6. Organizational Commitment	4.21	1.65	.09	-.03	.24**	-.26**	.77**	(.94)

Cronbach's alphas appears in parentheses along the diagonal
 N= 191, † p < .1, *p < .05, **p < .01